This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

+ *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.

+ *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.

+ *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.

+ *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at `http://books.google.com/`

LANE

MEDICAL LIBRARY

SEAL OF THE LELAND STANFORD JUNIOR UNIVERSITY
1885

Library of

Dr. Rufus L. Rigdon

ELEMENTS OF PSYCHOLOGY

BY

NOAH K. DAVIS, PH.D., LL.D.

PROFESSOR OF MORAL PHILOSOPHY IN THE UNIVERSITY OF VIRGINIA

E cœlo descendit: γνῶθι σεαυτόν

SILVER, BURDETT & CO., PUBLISHERS
NEW YORK BOSTON CHICAGO
1892

NR

Copyright, 1892,
By SILVER, BURDETT & CO.

Typography by J. S. Cushing & Co., Boston.

Presswork by Berwick & Smith, Boston.

K121.
D26
1892

PREFACE.

THIS treatise is intended primarily for those who have not already studied psychology, and now propose to give it thoughtful attention. It is therefore elementary, as its title indicates, and is introductory to the abundant and growing literature of the science. Though no previous acquaintance with the subject is requisite, yet as it can by no means be made light and easy, even an elementary treatise must presuppose mental maturity in the reader, and habits of thoughtful study. For him I have tried to prepare a statement of psychological doctrine, broad and true, on which he may build by his own thinking and wider reading. If his occupations do not permit this, he will at least have acquired a rounded knowledge of the generally approved principles and chief features of the science.

A reader already acquainted with the history and literature of psychology will find many familiar things restated. Let him remember that the treatise is for the novice. But he will find some familiar things modified, and some things new. A few may be indicated as follows: The material object immediately perceived; the argument for immediate perception; the modified view of intuition; the argument for duality; the relation of feeling to cognition; the character and place assigned to belief; the separation of feeling

83881

and desire; the defence of freedom in willing. On these and other points I earnestly ask for a candid and critical judgment. I care for nothing but truth in the matter, and will heartily join in condemning all else.

The portion calling for study is given in the main text. It is logically developed, with exact definitions adhered to throughout. Into the many marginal notes are gathered citations of authorities and references to those within easy reach, quotations from general literature, explanatory remarks, examples, illustrations, — indeed, all sorts of items, some of them mere trifles, the general intent being to enliven the terse and dry statements thus annotated.

The style is didactic. Above all things, I have tried to be accurate, concise, and clear, and as simple as possible. It would be much easier to write learnedly and obscurely, and so be judged profound; but I am willing to take the risk of slight esteem, hoping to be clearly understood.

The matter of this treatise has been the basis of my teaching for twenty years, with modifications and additions from time to time, so as to include the approved results of the most recent investigations. The interest which my pupils have taken in the subject, and the general favor which has been shown to my treatise on Logic, entitled "The Theory of Thought," encourage the hope that this work also may be found useful.

CONTENTS.

PHYSIOLOGICAL INTRODUCTION.

I. The Cephalic Senses.

PAGE
§ 1. A preliminary physiological view needful 1
§ 2. Logical distribution of the senses 1
§ 3. Of smell — its organ and excitant 2
§ 4. Its relatively sensuous character 3
§ 5. Its percept, odor, a quality or phenomenon of brain 4
§ 6. The percept not consciously located 5
§ 7. Of taste — its organ, excitant, sensuousness 5
§ 8. Its percept, savor, a quality or phenomenon of brain 6
§ 9. Analogies of smell and taste 7
§ 10. Of hearing — its organ and excitant 7
§ 11. Its relatively perceptive character 8
§ 12. Its percept, sound, a quality or phenomenon of brain 8
§ 13. The percept not consciously located 9
§ 14. Binaural audition affords proof that it is intercranial 9
§ 15. Of sight — its organ and excitant 10
§ 16. Its relatively perceptive character 10
§ 17. Its primary percept, color, a cerebral phenomenon 11
§ 18. Binocular vision affords proof 12
§ 19. Its secondary percept, extension. The field of view 13
§ 20. Analogies of hearing and sight 14
§ 21. The immediate object in perception 15

II. The Somatic Senses.

§ 22. Of touch — its organ. The intermediary 17
§ 23. The sensation. Its primary percept, tangibility 18
§ 24. Its secondary percept, extension 19
§ 25. Erroneous views concerning touch 20
§ 26. Of muscular sense — its organ and stimulant 20

PAGE
§ 27. The sensation. Its percept, solidity 20
§ 28. Illustrative examples 21
§ 29. The *sensus vagus*. Temperature. Pure pain 23
§ 30. No knowledge of the outer world given by sense alone 25

III. THE NERVOUS ORGANISM.

§ 31. The sympathetic system 26
§ 32. The cerebro-spinal system — its distribution 26
§ 33. The cerebral nerves 27
§ 34. The spinal cord and nerves 27
§ 35. The nervous circuit 28
§ 36. Neural reflex action 28
§ 37. Muscular dexterity or habit 29
§ 38. Anatomy of the brain 31
§ 39. White and gray matter — its distribution 31
§ 40. Cerebral localization 32
§ 41. Unconscious cerebration 33
§ 42. Psychology not dependent on neurology 34

IV. PHYSIOLOGICAL PSYCHOLOGY.

§ 43. Comprehension of this title 35
§ 44. Historical notices 36
§ 45. Psycho-physics. Fechner's law 37
§ 46. Its critics. Results summarized 39
§ 47. Psychometry — its methods and results 40
§ 48. Limitations of physiological psychology 42
§ 49. Relation of pure to mixed psychology 44

PART FIRST. — CONSCIOUSNESS.

I. PRELIMINARY DEFINITIONS.

§ 50. Psychology defined. Explication of terms 47
§ 51. The ego and non-ego 52
§ 52. Subject and object 53
§ 53. Mental powers and activities 55

II. GENERALITY OF CONSCIOUSNESS.

§ 54. Consciousness the *summum genus* 56
§ 55. Its logical content 57

III. CONDITIONS OF CONSCIOUSNESS.

PAGE
§ 56. Opposition, a condition of its existence 59
§ 57. Change, a condition of its continuance 60
§ 58. Law of relativity 60
§ 59. Shock of difference, and of similarity 61

IV. LIMITS OF CONSCIOUSNESS.

§ 60. It is of the actual, not of the potential 62
§ 61. Of the present, not of the past 62
§ 62. Of the positive, not of the negative 63
§ 63. Are we always conscious? 63
§ 64. Are we conscious of several things at once? 64
§ 65. Are there unconscious mental activities? 65

V. FACTS OF CONSCIOUSNESS.

§ 66. Description of the facts of consciousness 68
§ 67. Their essential characters 69
§ 68. Their enforced acceptance 69
§ 69. Their distinguishing criterion 70
§ 70. Their fundamental importance 71

VI. MODES OF CONSCIOUSNESS.

§ 71. The generic powers. Scheme 72
§ 72. Cognition 73
§ 73. Feeling 74
§ 74. Desire 74
§ 75. Volition 75
§ 76. The specific powers. Scheme 75
§ 77. Unity of mind 75
§ 78. Simultaneity of its activities 76

PART SECOND.—IMMEDIATE KNOWLEDGE.

I. COGNITION.

§ 79. Definition and division of cognition 77
§ 80. Is a comparison and a judgment 78
§ 81. Conditions the other powers 79
§ 82. Attention defined 79
§ 83. Law of Limitation 80
§ 84. Observation and reflection 81

PAGE
§ 85. Indefinite or expectant attention 82
§ 86. Involuntary attention. Distraction 82
§ 87. Voluntary attention. Abstraction 83
§ 88. Is plural attention possible? 83
§ 89. The sole function of will. Importance of 85

II. PRESENTATION.

§ 90. Definition and division 87
§ 91. The object given to consciousness 87
§ 92. Representation discriminated 88
§ 93. Presentations, many; representation, one 89
§ 94. Illustrative examples 89

III. PERCEPTION.

§ 95. Definitions. The percept 91
§ 96. Organs of sense eliminated 91
§ 97. Sensation and perception set apart 92
§ 98. Data of perception strictly stated 93
§ 99. Passivity in perception 94

IV. EXTERNAL REALITY.

§ 100. Doctrine of immediate perception 96
§ 101. Argument in support of 97
§ 102. Replies to adverse view 99
§ 103. Perception of primary qualities of body requisite 100
§ 104. Found in tactile and muscular senses 100
§ 105. Extra-organic body given in voluntary movement 101
§ 106. Outer world given in manipulation 103
§ 107. Order of development unknown 103

V. SELF-PERCEPTION.

§ 108. Definition. Internal sense 105
§ 109. Distinguished from self-consciousness 105
§ 110. Distinguished from perception 106
§ 111. Subdivision. Introspection. Example 106
§ 112. Reflection. Representative. Postponed 107

VI. PURE INTUITION.

§ 113. Intuitions divided. The pure defined 108
§ 114. Examples of pure ideas 109
§ 115. They are abstract 110

PAGE
§ 116. They are catholic ... 111
§ 117. They are self-evident ... 111
§ 118. They are certain ... 112
§ 119. They are necessary. Examples ... 113
§ 120. They are strictly universal ... 114
§ 121. Three kinds of general truth ... 115
§ 122. Catholicity and universality distinguished ... 116
§ 123. No classification effected ... 117

VII. Origin of Pure Truth.

§ 124. Questions stated ... 118
§ 125. Empiricism. Locke and Mill ... 118
§ 126. Reply to empiricism. Syllogisms ... 120
§ 127. Intuitionism. Leibnitz ... 122
§ 128. Kant. Mansel ... 123
§ 129. The doctrine restated ... 125
§ 130. Preferred view. Pure truth objective ... 126
§ 131. Pure ideas representative ... 128
§ 132. Objective ground of necessity and universality ... 129
§ 133. This theory distinct from empiricism ... 130
§ 134. The discussion metaphysical ... 131

VIII. Mind and Matter.

§ 135. Substance intuitive. Monism and Dualism ... 132
§ 136. Idealism — its various forms ... 133
§ 137. Idealists self-contradictory ... 135
§ 138. Materialism — its creed ... 136
§ 139. Its doctrine stated ... 137
§ 140. Its inconceivability an unsound objection ... 138
§ 141. Three philosophic objections ... 139
§ 142. Absolute identity — its doctrine ... 141
§ 143. Concomitant variations do not prove it ... 142
§ 144. Reduces to other forms of monism ... 143
§ 145. Dualism — its doctrine and ground ... 144
§ 146. Proved, as opposed to idealism ... 145
§ 147. Proved, as opposed to materialism ... 146
§ 148. Mind and brain correlated ... 148
§ 149. Mind not related to space ... 148

PART THIRD. — MEDIATE KNOWLEDGE.

I. Representation.

§ 150. Definition. Discriminated from presentation ... 150
§ 151. Division. Relations of condition ... 151

PAGE
§ 152. The medium, an object perceived 152
§ 153. The medium, a mental image or idea 154
§ 154. Locality merely represented 155
§ 155. Mental images sensuous — from experience 155
§ 156. Ideas always representative — in two modes 157

II. MEDIATE PERCEPTION.

§ 157. Distinguished from perception proper 158
§ 158. Genesis of a case 159
§ 159. Genesis generally stated — four steps 159
§ 160. Liability to illusion and error 160
§ 161. Review of the fourth step in the genesis 161
§ 162. Perception of spatial relations 162
§ 163. Unity and plurality in space 163
§ 164. Solidity and shape of outer things 164
§ 165. The direction of objects in space 167
§ 166. Direction as judged by hearing 168
§ 167. The size and distance of objects 169
§ 168. Analysis of this mediate perception 170
§ 169. Perspective, ground and aërial 172
§ 170. Location of tactile percepts on the body 173
§ 171. Location of sense-percepts beyond the body 175

III. SUGGESTION.

§ 172. Sequence of mental states — of two kinds 177
§ 173. Law of similarity — contraries 178
§ 174. Law of association or redintegration 179
§ 175. Order in association — loss of links 180
§ 176. Multiplicity of simultaneous revivals 181
§ 177. Indissoluble associations 182
§ 178. Wide generality of this law 183
§ 179. Law of preference. Four points 184
§ 180. The associational school — disapproved 186

IV. MEMORY.

§ 181. Definition. Theory of repetition 187
§ 182. The primary judgment intuitive 187
§ 183. The secondary judgment. The attendant belief 188
§ 184. Based on suggestion 189
§ 185. Theory of mental retention. Two objections 189
§ 186. Theory of physical retention. Supplementary 190
§ 187. Remembrance, involuntary. Subdivided 193
§ 188. Recollection, voluntary. Impelled by desire 194
§ 189. Circumstantial and philosophical. Mnemonics 196

V. IMAGINATION.

PAGE
§ 190. Terms. Definition. The ideal object ... 198
§ 191. Distinguished from memory ... 198
§ 192. Limitations of imagination ... 199
§ 193. Simple imagination — two forms ... 201
§ 194. Complex imagination, constructive and plastic ... 202
§ 195. Involuntary imagination or phantasy. Dreams ... 203
§ 196. Concomitant action of the brain ... 204
§ 197. Voluntary imagination — subdivisions ... 207
§ 198. The artistic. Fancy ... 207
§ 199. Poetic imagination ... 209
§ 200. The reflective. Philosophic ... 209
§ 201. Deliberative imagination ... 211
§ 202. The practical. Ideas of actions ... 211
§ 203. Ideal standards of actions ... 213

VI. THOUGHT.

§ 204. Definition — illustrated. The notion ... 216
§ 205. Three movements. Abstraction ... 217
§ 206. Abstract terms ... 218
§ 207. Generalization ... 219
§ 208. Conception — particular and general ... 219
§ 209. Denomination ... 221
§ 210. Intension and extension of the concept ... 222
§ 211. Classification ... 223
§ 212. Review. Judgments — inductions and deductions ... 224
§ 213. Relation of judgment and conception ... 225
§ 214. Relation of thought to memory, and to imagination ... 226
§ 215. Intuitive thinking ... 227
§ 216. Symbolical thinking ... 229
§ 217. Test of symbolic thought ... 230
§ 218. Truth — its definition, and its criterion ... 231
§ 219. Error — limited to thought. What is its source? ... 234
§ 220. Attributed to imagination ... 236

PART FOURTH. — FEELING.

I. CHARACTERISTICS.

§ 221. Correlation of cognition and feeling ... 239
§ 222. Their inverse ratio ... 241
§ 223. Change requisite. Law of accommodation ... 241
§ 224. Novelty. Familiarity the basis of memory ... 243

PAGE
§ 225. Desire set apart 244
§ 226. The consciousness of self-existence found in feeling 245
§ 227. Certainty, belief, and doubt 247
§ 228. Pleasure and pain. Aristotle's theory 249
§ 229. Feelings involuntary — their mediate control 252
§ 230. Diffusion of feeling — expression and organic effects 253
§ 231. Logical distribution — scheme 256

II. Sensation.

§ 232. Correlation of perception and sensation 258
§ 233. Sensations attending the *sensus vagus* 258
§ 234. Those of the *sensus fixus*. Muscular sensations 260
§ 235. Tactile sensations 261
§ 236. Odors — their classes 261
§ 237. Tastes — their classes 262
§ 238. Sensations of sound 264
§ 239. Sensations of white light, color, and lustre 265

III. Emotion.

§ 240. Temperament, mood, disposition 266
§ 241. Characteristics of emotion 268
§ 242. Wonder and its cognates 269
§ 243. Fear — its causes and effects 270
§ 244. Joy and sorrow — their expression 272
§ 245. Affectionate emotions 273
§ 246. Sympathy — its objects. Panic 274

IV. Sentiment.

§ 247. Correlation of pure intuition and sentiment 277
§ 248. Sensuous sentiments. Beauty — limitations 277
§ 249. The sublime, the picturesque, and the ludicrous 280
§ 250. Utility — distinct from beauty 281
§ 251. Pure intellectual sentiments of truth, property, etc. 282
§ 252. Those of honor, trust, and pity 284
§ 253. Those of self-esteem, etc. — humiliation, humility 286
§ 254. Pure ethical sentiments of respect, etc. — gratitude 287

PART FIFTH. — DESIRE.

I. Its Relations.

§ 255. Definition. Relation to cognition 289
§ 256. To feeling — pleasure and pain 290
§ 257. To volition — correlative 293
§ 258. Psychical instinct 294

II. Its Kinds.

PAGE
§ 259. Logical distribution — list of species........ 295
§ 260. Appetites — marks of, with examples........ 296
§ 261. Appetences — illustrative examples in detail........ 298
§ 262. Affections — benevolent, with examples in detail........ 300
§ 263. Affections — malevolent, with examples in detail........ 303

III. Its Regulation.

§ 264. The conflict among desires........ 305
§ 265. The two regulative desires — how harmonized........ 305
§ 266. Their relation to subordinate desires........ 307
§ 267. The moral impulse conditioned. Conscience........ 308

PART SIXTH — VOLITION.

I. Its Relations.

§ 268. Definition. Contrasted with cognition........ 309
§ 269. Its double relation to cognition........ 310
§ 270. How related to feeling and desire........ 311
§ 271. Subjective and objective control........ 311

II. Its Elements.

§ 272. Two conditions, and three elements........ 313
§ 273. Choice — its special conditions, and essence........ 314
§ 274. Intention — its static character........ 315
§ 275. Effort — the nisus of attention........ 316

III. Its Freedom.

§ 276. The two opposed doctrines........ 318
§ 277. Am I free? Importance of the question........ 318
§ 278. An objection to the inquiry retorted........ 320
§ 279. The presumption, and burden of proof........ 321
§ 280. The necessitarian argument........ 321
§ 281. The reply that I am conscious of freedom........ 322
§ 282. That volition is exempt from causation........ 324
§ 283. That causality is modified in this case........ 325
§ 284. That causation does not apply to mind........ 327
§ 285. That free agency comports with subjective necessity........ 329
§ 286. A critical analysis of the argument........ 332
§ 287. A premise corrected in form and denied........ 333
§ 288. The making the choice distinct from the choice itself........ 334
§ 289. The choice itself is not a change........ 335
§ 290. The necessitarian argument invalid........ 336
§ 291. An indirect demonstration of freedom........ 337
§ 292. The conditioning antecedents of choice........ 338

Σχεδὸν γάρ τι ἔγωγε αὐτὸ τοῦτό φημι εἶναι σωφροσύνην, τὸ γιγνώσκειν ἑαυτόν’ καὶ ξυμφέρομαι τῷ ἐν Δελφοῖς ἀναθέντι τὸ τοιοῦτον γράμμα, ΓΝΩ͂ΘΙ ΣΕΑΥΤΌΝ. καὶ γὰρ τοῦτο οὕτω μοι δοκεῖ τὸ γράμμα ἀνακεῖσθαι, ὡς δὴ πρόσρησις οὖσα τοῦ θεοῦ τῶν εἰσιόντων ἀντὶ τοῦ χαῖρε. — Plato.

PHYSIOLOGICAL INTRODUCTION.

CHAPTER I.

THE CEPHALIC SENSES.

§ **1.** Certain physiological facts, together with inferences from them, form a proper introduction to psychology. As man consists of a body and mind in essential relation, neither can rightly be studied apart from the other. Psychology, the science of mind, involves, therefore, a study of the body as it affects or is affected by mind. Physiology, a science of organized body, considers at large the function of organs; but human physiology, in its direct relation to mind, is concerned only with the organs of sense, and the nervous system in general. These are directly correlated with mental states, and their influence in determining experience is a primary consideration. We begin, then, with a brief examination of the several senses, followed by a sketch of the nervous system, indicating, as we proceed, the results of both observation and experiment.

§ **2.** For orderly discussion the following logical arrangement is adopted. The senses in general are of two classes, the *sensus fixus*, that having local organs, and the *sensus vagus*, the mobile or diffused sense, sometimes called the vital sense.[1] The *sensus fixus* is divided into the cephalic and the somatic senses. The former are so named because their several organs are located exclusively in the head. They are smelling, tasting, hearing, and seeing. In smell and taste sensation predominates; in hearing and sight perception predominates; hence a subdivision of the cephalic senses into the two subjective and the two objective senses. The somatic senses are so named because their organs are distributed over all parts of the body. They are touch and the muscular sense. The former is on the whole the more objective or percipient; the latter, the more subjective or sensuous. The *sensus vagus*, or vital sense, need not be subdivided here. It is almost wholly subjective or sensuous.

---

[1] Kant, *Anthropologie*, § 15.

The cephalic senses will now be examined in the order of increasing objectivity.

§ **3.** The organ of smell lies above the nostrils in vaulted chambers between the eyes. The mucous membrane lining this cavity is supplied with a great number of delicate olfactory fibres which pass up to the overlying brain through sieve-like perforations in the bony cribriform plate that roofs the vaults. Their further connection with the nerve centres is called the first pair of cerebral nerves, or the olfactory nerves. But these are not clearly traceable, and the olfactory fibres seem rather to be direct processes of the cerebral hemispheres.[1]

Effluvia and certain gases and vapors, soluble in the moisture of the mucous lining, excite the enclosed olfactory fibres, and produce a sense-perception of odor.[2]

---

[1] It is very desirable that the reader should have a knowledge of the anatomy and physiology of the organs of sense, and of the nervous system generally, far beyond what would be proper, or even possible, to give in the present treatise. Nothing but the barest outline statement being admissible here, he is earnestly recommended to inform himself more fully by perusing on these points some good handbook of physiology. To this end I have used satisfactorily with my pupils Huxley's *Lessons in Elementary Physiology*, published by Macmillan & Co.

[2] All volatile organic compounds, says Gmelin, are odoriferous. The substances causing pleasant odors are chiefly hydrocarbons, as the ethers. Substances repulsive frequently contain sulphur, as sulphydric acid; but

§ 4. In the ordinary exercise of the sense of smell the agreeable or disagreeable feeling is a marked experience, and greatly predominates over the knowledge it gives of its object. As compared with the other senses, the feeling or sensation in smell is at a maximum, whereas the accompanying knowledge or perception is at a minimum. That is to say, smell is the most highly sensuous and most feebly perceptive of the fixed senses. Yet its perceptive power is remarkably acute, and in some cases it surpasses the spectroscope in detecting the presence of minute particles.[1] By attentive exercise its power of discrimination may be greatly improved.[2] But by just so much as its perceptive or objective power increases, does its naturally sensuous or subjective character decrease, so that it may even cease to be a source of pleasure or pain, all odors becoming subjectively indifferent.[3]

---

the most offensive have arsenic for their base, as chloride of kakodyle. Odorous matter is such as in general can readily be acted on by oxygen, and unless oxygen passes into the nostrils along with it, no smell is caused.

[1] The perceptive power of this sense to detect the presence of odoriferous particles is marvellous. Sulphydric acid in the atmosphere, in the proportion of one to a million, is distinctly perceptible. Valentin has calculated that it can perceive about the three hundred millionths (0.00000003) of a grain of musk. Another chemist estimates that two and a half billionths (0.0000000025) of a grain of camphor is perceptible. So minute a particle is quite imperceptible otherwise; no microscope can bring it within the reach of vision; and even the spectroscope, which can detect the fifteen millionths (0.000015) of a grain, is far surpassed in delicacy by the organ of smell. It furnishes extreme examples of the divisibility of matter.

[2] The blind are guided by it with facility and accuracy. Humboldt says that the Peruvian Indians, in the night, can not only perceive by scent the approach of a stranger while yet far distant, but can say whether he is an Indian, a European, or a negro. The Arabs of the Sahara recognize the smell of fire thirty or more miles away. The Spice Islands of the Indian Archipelago are recognized far out at sea. Nearer home, our tobacco buyers determine differences of value by faint differences of odor quite indistinguishable by the uneducated. The word *sagacious*, meaning primarily keen-scented, is often used to denote high intelligence or power of discrimination.

[3] This is true of the blind, who rely on it. To the dog, whose sagacity is proverbial, all odors seem subjectively indifferent.

§ 5. The combined sensation and perception, or sense-perception, of smell is a mental state. The object perceived, the percept, is an odor. By the common judgment of men, odor is a quality of body, an external material cause of the mental state; it is attributed to body as a quality inherent in its substance. The philosophic correctness of this judgment in its general form will be subsequently considered and maintained. Its truth is, for the present, assumed, and we proceed at once to the question: What body has the quality odor; or what is the material thing that directly excites the sense-perception of smell?

It is universally allowed that I have immediate knowledge or am conscious of the odor. Now, according to the foregoing assumption, I am therein conscious of the material thing that excites in me this special sense-perception. But the object immediately known in perception must be one which is the proximate cause of the conscious affection; for a remote cause can be known only by inference, and this is always mediate knowledge.[1]

What, then, is the proximate cause of this affection? Of what external thing am I conscious? Certainly not of the rose that I hold in my hand, nor of its effluvium; for evidently these are quite remote causes. Nor am I conscious of the outer organ of smell. Its function undoubtedly is to receive, modify, and transmit the impressions of effluvia. But of this I know nothing consciously. The existence and functions of the outer organ become known to me only as the result of observation and inference. Moreover, its existence is not essential to the percept; for if it be cut away by the surgeon's knife, and an electric shock be passed through the cribriform plate, a sense-perception of odor is experienced. It is evident, then, that the outer organ is only one link in a chain of remote causes, which proceeds into the brain. Hence the proximate cause of the sense-perception is some interior cerebral movement, some brain change, a certain special excitement of the inner sensory, perhaps limited to a definite part which constitutes the inner organ or centre of smell.

---

[1] Mediate, not in the logical, but in the psychological sense. That is to say, a remote cause can be known only through a representation, which is, psychologically, mediate knowledge.

We reach, then, the unquestionable and very important conclusion that in smell the object external to mind, the object of which I am conscious, is a brain change, and nothing beyond; that the inner sensory itself, excited in a special manner, is the proximate cause of the sense-perception, and therefore the brain itself, or probably some part of it, is the percept, the object immediately perceived when I experience the presence of odor.

§ **6**. The sense of smell gives the existence of body as having this one quality, odor. It does not give body as having either extension or place. It does not localize its percept either in the cranium, where it is, or in the nostrils, where it is not. When by aid of other faculties we have ascertained that some remote thing, as a rose, is a cause of the sense-perception, we attribute the odor to it as its inherent quality; and because of the habitual use of the nostrils as the recognized and recognizing instrument, we locate the consciousness in them, and seem to experience the odor there. But the foregoing slight analysis shows that both these localizations are acquired and erroneous notions, and identifies the body possessing this quality, this special power of directly affecting me, with the inner sensory, the brain itself.

The subsequent examination of the other forms of the *sensus fixus* will show that these conclusions are general.

§ **7**. The organ of taste lies in the mucous membrane which covers the tongue, especially its back part, and the hinder part of the palate. The papillæ of this membrane receive nervous filaments chiefly from the ninth pair of cerebral nerves, called the glosso-pharyngeal, but also from a branch of the fifth pair, the trigeminal, this branch being called the gustatory nerve. The gustatory nerve mostly supplies the front of the tongue, the glosso-pharyngeal its back part and the adjacent part of the palate.[1] These nerves are partly motor, but they are mainly sensor, and it is believed that somewhat different taste sensations arise from each.

The excitant of taste is sapid matter dissolved in the moisture of the mucous membrane. Insoluble solids are insipid, solubility being a condition of sapidity. But not all soluble matter is sapid.[2]

Taste is highly subjective, the sensation being strongly marked as agreeable, or disagreeable even to disgust, while the percept is proportionately faint.[3] Still it is an acute and important means of information, and susceptible of great improvement in delicate discrimination.[4]

§ **8.** The impression we usually call taste is, however, quite complex, involving not only smell, but touch, muscular sense and temperature, besides stomatic sensations. It is consequently difficult to distinguish and analyze pure taste. But there can be no doubt that its percept, savor, though greatly obscured by this complication, is a simple and ultimate enorganic affection. What was said of odor in the preceding section, may be said of savor. It is merely an excited state of an intercranial sensory, and what is immediately perceived is not something in the mouth, but something in the sensorium.

---

[1] The latter seems to be more especially the nerve of taste. Animals in whom it has been severed devour food mixed with the bitterest ingredients.

[2] It should be observed, however, that electricity excites taste. Hence the taste of metals, *e.g.* of zinc and copper.

[3] To taste means to test, to try. "Taste your legs, Sir; put them to motion." — *Twelfth Night*, A. 3, sc. 1. Primarily, to test by touch. Note the extended use of the word in æsthetics, and also the secondary meaning of disgust.

[4] The tongue can recognize the acidity of a drop of solution consisting of one part of sulphuric acid in 10,000 parts of water, and the bitterness of one of sulphate of quinine in 33,000 of water, quantities too small to be detected by chemical tests. The skilled wine-taster, it is said, can tell the vineyard of a choice wine, and the year of its vintage.

§ 9. Smell and taste are analogous. The outer organs of both lie in the mucous membrane, and require the solution of their excitants. These seem to be foreign particles acting chemically on the nerve fibres, whereas in hearing and sight the excitement seems due to motion, the vibration of foreign particles; hence the two former are sometimes called the chemical senses; the two latter, the mechanical senses.[1]

Both smell and taste are highly sensuous and feebly perceptive; hence the sensation is much more easily and distinctly remembered than the perception.[2] There is great sympathy between these two senses, so that what is agreeable or disagreeable to one is likely to be so to the other, smell thus acting as a preparatory test and safeguard to taste.[3] The similarity of their impressions is such that the words *flavor* and *savor* often interchange meanings.

§ 10. The organ of hearing is very complex, and the specific function of certain parts is not known. For the present purpose it is sufficient to observe that the vibrations of a sonorous body, as a bell, are communicated to the air, and through this medium to the outer membrane of the tympanum or drum of the ear; that they thence pass through a chain of small bones, and then through a fluid to certain cells of auditory epithelium, where peripheral filaments of the auditory nerve are stimulated; that this stimulus is propagated along the trunk nerve into the sensorium, there causing an excitement or disturbance of the sensory, probably at some aural centre. The consciousness of this final sensorial excitement is the sense-perception of sound.

---

[1] Wundt classes sight as a chemical sense.

[2] It is because of this subjective character, perhaps, that they have baffled so far all attempts to measure their intensity.

[3] Socrates, in a dialogue with Aristodemus, discourses of this relation as an evidence of design. — See Blackie's *Four Phases*, p. 78, Am. ed.

§ **11.** The sense of hearing is more perceptive or objective than sensuous or subjective. The mere sensuous feeling is ordinarily of low intensity, a single sound or synchronous sounds giving little pleasure or pain. If, however, a sound be very loud, acute, harsh, or discordant, the sensation becomes painful, and the percept loses proportionally its vividness. The enjoyment of music is but slightly sensuous. Sweet or pleasing sounds are perhaps essential, but the enjoyment arises chiefly from the variety and harmonious relations of the sounds. The recognition of this is intellectual, and the pleasant feelings attending it are not properly sensations, but emotions and sentiments.

On the other hand, the perceptive power of hearing is very comprehensive and discriminating. The number of musical tones that can be distinguished by pitch alone is several hundred, and if their intensity and timbre be taken into account, the number is incalculable. Yet to these must be added an innumerable variety of articulate vocal sounds, and to these again an even greater variety of mere noises.

§ **12.** The percept of hearing is sound. Hearing is a specific sense-perception, a state of mind; sound is its object, the thing perceived. I am conscious of the sound. Now what is the thing herein immediately known to me? It is not the bell, nor the aërial vibrations; these are only remote causes. Indeed, the latter are not requisite, as is proved by a tuning-fork held between the teeth, in which case the vibrations are conveyed by the bones of the face.[1] But even vibrations are not essential, nor indeed the apparatus of the peripheral or outer ear; for if this ear be completely destroyed, and the stump of the auditory trunk nerve irritated with a needle, a sense-perception of sound is produced. The outer ear serves doubtless to receive, modify, and transmit in all their various characters the sound-producing vibrations; but of its functions, even of its existence, I am utterly unconscious. I am conscious only of a result occurring at the supposed aural centre, the inner ear, which I call a sound. Sound, then, is a phenomenon of brain. The percept is not merely enorganic, but intercranial; the thing immediately perceived, the proximate cause of the sense-perception, is the inner sensory.[1]

---

[1] In case of deafness it may be thus determined whether the cause is a stoppage of the outer passages, or a disorder of the inner ear. Fish have no ear opening, the vibrations being conveyed from the water to the auditory nerve through solid bone.

§ **13**. The percept of hearing is not consciously located at all. It is not perceived to be in the sensorium, where in fact it is, nor in the outer ear, where it is not. That some sounds seem to be in the outer ear is doubtless due to a disturbance of tactile nerves in the vicinity. Commonly we locate a sound, by inference, in its remote cause, as in the bell, or else in its atmosphere. But sound proper is wholly intercranial. Outside there are only vibrations, and were there no inner ear to hear, absolute silence would reign throughout the universe.

§ **14**. That sound is an intercranial phenomenon is proved by a fact in binaural audition. If two unisonant musical tones be conveyed by acoustic tubes, one to each ear, a smooth musical note is heard; but if they differ by a quarter tone, a beating note is heard. Now where is this beating? Not in the outside air, which is shut off by the tubes. Not in either tube, for each conveys a smooth tone. It can be only in the brain, and, since the auditory nerves do not decussate, probably at co-ordinated centres where they terminate. This is a physical demonstration by experiment, that sound is not

[1] When we stop our ears with the tips of the fingers a roaring sound is heard, probably due to the circulation of the blood in and about the inner ear. If one will attentively contemplate this subjective sound, as the physiologists call it, dismissing all consideration of its cause and its apparent locality in the outer ear, he can more clearly apprehend our doctrine that all sound is subjective, its perception being merely a consciousness of the sensory excited in a peculiar manner.

something in the sonorous body, or in its atmosphere, nor something in the outer ear, but that it is a cerebral phenomenon, and that the thing immediately perceived is an excited sensory, probably an aural centre.[1]

§ **15.** The outer organ of sight, the eyeball, is a *camera obscura*, having in front a combination of lenses which bring pencils of light to foci on the retina lining the interior. These pencils thus depict on the retina, as on a screen, an optical picture of remote luminous objects. The retina is a complexus of nerve filaments which are ramifications of the optic nerve, and through the optic nerve the impressions on the retina are conveyed in a modified form to a sensorial sight centre, and vision ensues, a sense-perception of colored figure.

§ **16.** Sight is the most objective of the senses. Its sensations are ordinarily quite feeble, scarcely marked as pleasant or painful. A very bright light, however, and also a dim light, are painful, because of the overstrained energy they arouse. Certain soft and rich colors, of medium brightness, give a marked sensuous pleasure; and, in general, light is an agreeable and very effective stimulant.[2] But the pleasure we experience in viewing harmonious contrasts of colors and the variations of light and shade is mostly intellectual and æsthetic, with very little that is strictly sensuous. The pleasure arising from form without regard to color, as of a statue or a line engraving, is still less sensuous.

---

[1] The experiment was first tried by myself, and the above paragraph written, early in the winter of 1876–7. It was at once published to my pupils, and has ever since been used in my teaching.

In the summer of 1877, Professor S. P. Thompson announced to the British Association his own discovery of this phenomenon. (See *Report of Brit. Assoc.*, Plymouth, 1877, p. 37; also *Phil. Mag.* for October, 1877, p. 274; for November, 1878, p. 383; and for November, 1881, p. 351.) He pursues the subject by a number of ingenious experiments, and adds many acute observations, dwelling especially on the fact that the sensation of the sound is localized centrally at the back of the head. Viewing the matter as a physicist, he establishes and discusses the facts, but nowhere does he draw the important psychological conclusion given above in the text.

[2] "Truly the light is sweet, and a pleasant thing it is for the eyes to behold the sun." — Eccl. 11:7.

On the other hand, the perceptions of sight are remarkably clear and distinct. The almost infinite variety of shades and hues distinguishable indicates the wide range and acute discrimination of vision. It is the most keenly percipient of the senses, and hence, as a source of information, it is by far the most useful sense.

§ **17.** The primary percept of sight is color, including under this term not only all hues, but also white and black, and every variety of light and shade. Seeing is a specific sense-perception, a state of mind; color is its primary object, the thing perceived. I am conscious of the color.

What, now, is color psychologically considered; that is, as perceived? It is not a quality inherent in the luminous object; for a white rose in the beams of the prismatic spectrum will assume any of its hues, and in the dark all roses are colorless. It is not the light itself; for while many things seem to emit white light, there is no such thing as a white ray, but the impression white is the subjective effect of the combined prismatic colors. Moreover, light is not essential, for with closed eyes I may still perceive phosphenes, due to retinal excitement, displaying many colors.[1] It is not the retinal picture; nor the retina itself, of which I am conscious; for if the eyeballs be removed, and the remains of the optic nerve be irritated, a vision of colors will still be experienced.[2] The retina serves to receive, modify, and transmit in modified form through the optic nerve the sight-producing vibrations; but I am unconscious of the part it plays, or even of its existence. I am conscious only of a result, which has been ascertained to occur at a sight centre far within the cerebrum, and I call it a color.

---

[1] They may be rendered quite vivid by pressing on the eyeballs. A blow on the head causes one to "see stars." These percepts are evidently not due to ethereal vibrations, but to mechanical disturbance of the retina. An attentive contemplation of phosphenes, especially if projecting them into space be avoided, will enable one to appreciate more satisfactorily the fact that the percepts are enorganic.

[2] Moreover, one who has become blind by loss of the eyeballs alone, can still vividly image colored scenes; but "the destruction of the sight centre

We thus trace this percept, as the others, into the nervous centres, and find that color, too, is a phenomenon of brain. It is not that we perceive the sight centre to be colored in the manner that we seem to see outward objects colored; but it is that the sight centre is the immediate object, the material thing, that directly causes the conscious impression of color in the mind, and therefore it is the material object immediately known or perceived.

We commonly attribute color to external objects, and think of it as residing on their surfaces.[1] We regard light as something beyond ourselves, filling space. There is, hypothetically, a vibrating ether filling space, which causes the phenomenon; but there is no brightness beyond ourselves out in space, nor any color, blue, yellow, or red, residing on the surface of bodies. Colors are wholly the phenomena of one's brain, caused by the supposed vibrations; so that, were there no eye to see, the sun would not be bright, the moon and stars would not shine, the sky would have no tints, the landscape no hues, no shades, and absolute darkness would reign throughout the universe.

§ **18**. That color is an intercranial phenomenon finds further proof in a fact of binocular vision. Put two pieces

---

not only makes the individual blind presentatively, but blind also representatively or ideally, and all cognitions into which visual characters enter in part or whole become mangled and imperfect, or are utterly rooted out of consciousness." — D. FERRIER'S *Functions of the Brain*, p. 259.

[1] That it does not is confirmed by the remarkable defect, generally congenital, called color-blindness. It is never entire, but in part it is quite common, about one person in twenty being more or less color-blind, and the inability to distinguish red being most frequent. Nevertheless, the subject sees the object, though of a different hue from what we regard as its real color.

Was not Homer merely color-blind? The Iliad, like a steel engraving, is colorless.

of paper, one yellow, the other blue, in the separate compartments of a stereoscope. On looking through the lenses, the percept is green. Now, where is this green? It is not in either eye, for it is physically certain that the picture on one retina is yellow, and on the other blue. The percept green cannot be short of the optic chiasm, where the optic nerves partially decussate, and probably it lies much deeper in the cerebrum. This is a physical demonstration by experiment, that in vision of color the object consciously known by this phenomenon is not the retina, and that it is intercranial, an excited cerebral sight centre.[1]

§ **19**. Beside color, sight is cognizant of extension. On looking at the starry heavens, the luminous points I see are numerous. The points of impression being numerous and simultaneous, must be apart in space, and herein is a consciousness of extension.

This extension is not that of the heavens themselves; for evidently I cannot be conscious of their extension. It is commonly supposed to be that of the retinal picture, the minute chart of the heavens which the pencils of light depict on my retina, mentally projected out, beyond and above me, and thought into a sky. But what I see, and my retinal picture, do not exactly correspond. Moreover, as has already been indicated, the retinal picture is out of consciousness. How, then, shall we interpret this fact of consciousness, the consciousness, in sight, of extension? The true statement seems to be this: The retinal picture determines a complex impression on the inner sight centre, not only of colors, but also of their expanse; and this combined impression constitutes a field of view, consisting of colored figures.[2]

---

[1] The experiment is parallel to that on sound, § 14. It is not new, being found in Brewster's *Optics* in a different form. The psychological inference, stated above, has not previously, so far as I know, been drawn.

[2] That sight is cognizant of extension in two dimensions, length and breadth (but not depth), is generally conceded. Hamilton argues for it, but unsatisfactorily, *Meta.*, Lec. 28. Psychologists of to-day hold it on other but

Accordingly, we take color, since it is the condition of visible extension, to be the primary, and its extension, or figure, to be the secondary, but equally immediate, percept of sight. This consciousness of colored figure is an empirical occasion for the pure idea, or intellectual discernment of space. Also in the changing of visible figure we immediately perceive, or are conscious of, motion.

§ **20.** The external conditions of hearing and seeing are analogous, being in both cases a vibrating body, sonorous or luminous, and a pulsating medium conveying the movement to the outer organs of sense. The organs, though in appearance very dissimilar, are essentially alike in being fitted to receive, modify, and transmit vibrations. Both have nerve ramifications, impressible by vibrations of certain degrees of intensity, and are insensible to others.[1] Moreover, both these senses are highly perceptive and feebly sensuous. The

---

various grounds. The fact being granted, how shall it be interpreted? The various hypotheses have been classed by Helmholtz as native and empirical. Of the former, the doctrine of Müller is called the hypothesis of subjective identity. "The retina," says he, "feels its own extension and position. Even when not in the least affected by the world without, it feels them as darkness before the eyes." Also there is the hypothesis of projection, maintained especially by Volkmann, which teaches that "the retina is capable of projecting its impressions outward in given lines of direction or of sight." These hypotheses have been variously modified to suit the facts, but are now generally regarded as unsatisfactory. The leading representative of the empirical class is Helmholtz, he holding to the genesis of visual space from experience alone. The peculiar views of Lotze and Wundt on the genesis of the notion of space will be noticed under the head of Touch.

The interpretation given above in the text may fairly be classed as nativist. A number of facts favor it; *e.g.* there is a blind spot on the retina, but no corresponding dark spot in the field of view.

[1] Aërial vibrations fewer than 8 per sec. are inaudible, and at least 16 per sec. are requisite to produce a musical tone. Vibrations of more than 38,000 per sec. are inaudible, but painful if intense. Ethereal vibrations fewer than 399 trillions per sec., the extreme red, do not excite vision; nor do those of more than 831 trillions per sec., the extreme violet or lavender. Thus while the range of the ear is a little more than eleven octaves, that of the eye is little more than one octave.

sensations are similar in being susceptible of harmony and discord.[1] The perceptions are similar in the power which they acquire of giving information respecting remote objects. They have also a remarkable power of analysis, hearing dividing time, and sight dividing space, almost infinitesimally.

§ **21.** From the foregoing view of the cephalic senses it clearly appears that the immediate percept of each is an excited sensory. The same will on examination be found true of the percepts of the somatic senses. Indeed, the fact is general, true of all those percepts commonly known as the secondary qualities of body, they being in reality affections of the organism, and having no resemblance to any attribute inhering in extra-organic bodies. This important fact is not new in physiology.[2] It has not, however, been fully appreciated by psychologists.[3] In view of it we are enabled to formulate an answer to the general question: What is the material thing which each sense immediately perceives? See § 5. The answer, which we shall hold to be an established proposition, is: The brain itself is the immediate object in perception.

---

[1] The subjective analogy between hearing and seeing is illustrated by the following words of Taylor: "You look around the room as you enter. The whitewash dazzles you. A scarlet geranium in bloom on the window sill startles you like a trumpet blast amid all this silence of white."

[2] Says Müller: "External agencies can give rise to no kind of sensation which cannot also be produced by internal causes exciting changes in the condition of our nerves."—*Elem. of. Phys.*, p. 1059. And, later, Bernstein says: "It is clear that we really have no sensations [perceptions] of objects of the external world themselves, but only of the changes which occur in the sensorium."—*Five Senses of Man*, Int., p. 5.

[3] Reid held that in looking at the sun we are immediately conscious of it. Hamilton in one place defends this view (*Meta.*, pp. 158–9). In another he says: "Nothing could be more absurd" (p. 357). He holds that "the external object in perception is always in contact with the organ of sense" (p. 375). "Through the eye we perceive nothing but the rays of light in relation to and in contact with the retina" (p. 358). Mansel, his pupil, says: "The presented object is on the surface of the retina" (*Meta.*, p. 75). That is, the retinal picture. But elsewhere (p. 65) he says: "Our own sensitive organism is the only kind of matter that is immediately cognizible by the senses." President Porter says: "The mind does not see the image on the retina" (*Hum. Intell.*, p. 132). Professor Clifford says: "It is more correct to say that we see with a certain part of our brains, than to say that we see with our eyes." It would be still more rigidly correct to say that we see a certain part of our brains.

This proposition is very important, and therefore its claim of acceptance should be carefully considered. The doctrine of immediate perception, in its usual form, has encountered many objections, which, if our proposition be allowed, are avoided. We shall find hereafter that an escape from idealism, or the doctrine that a non-ego does not exist, can be accomplished only on the ground that extra-organic objects are not immediately perceived. If immediate perception be allowed only to intra-organic objects, we shall be better enabled to establish the distinction between mind and matter, and so, on the other hand, escape the meshes of materialism, or the doctrine that matter only exists. The brain being the matter in opposition to mind, the two being in no sense identical, we can hold the doctrine of two substances, interacting, co-ordinated, mutually dependent, and yet entirely distinct.

No doubt there is a difficulty in conceiving one's brain as the immediate object perceived. But we must separate ourselves from the usual view, that of looking with the eyes on the thing, and consider merely the subjective impression the thing makes upon us, and observe that it is a knowledge, first, of its existence as something distinct from self, and secondly, as something made known to us by virtue of a single special quality. This wholly subjective view of the brain as an existing, qualified thing, taken by the psychologist, is very different from the wholly objective view of the brain, taken by the anatomist and physiologist; but that it is identically the same thing that presents these different aspects is unquestionable.

CHAPTER II.

THE SOMATIC SENSES.

§ **22.** The organ of the sense of touch is the skin. It consists of a superficial layer, the epidermis, and a subjacent layer, the dermis, in which capillary nerves terminate. Where the sense is delicate, as at the finger tips, the dermis rises into many small, close-set, conical papillæ, whose apexes come near the outer surface of the epidermis. Each of these cones is supplied with a tactile nerve and corpuscle.[1] Superficially the skin is subdivided into small tracts presenting the appearance of network, and varying in size, being small at the finger-tips and many times larger on the back. Each tract is supplied with the capillaries of a single nerve fibre, and capable of imparting only a single sense-perception.[2]

The epidermis is an intermediary, the impact that stimulates the nerve being transmitted through its horny substance to the subjacent ends of the nerve. The thickness or extent of the intermediary seems less important than its capacity for transmitting impulses. The finger nail drawn over a surface affords a most delicate test of its smoothness.[3]

---

[1] At the finger tips about one hundred of these corpuscles may be counted in an area $\frac{1}{12}$ inch square. Elsewhere they are more sparse.

[2] E. H. Weber, who made many experiments determinative of the relation of sense-perception to its excitant, found that two points can be distinguished by the tongue when only $\frac{1}{24}$ inch apart; by the finger tips when only $\frac{1}{12}$ inch apart; while they may be one inch apart on the cheek, and even $2\frac{1}{4}$ inches apart on portions of the back, and yet seem single. The areas, having these distances for diameters, Weber calls "circles of sensation."

[3] This was the ancient statuary's test of the smoothness of his marble. Horace uses it figuratively to express perfection: "Ad unguem factus homo." — *Iter Brun.*, l. 30. The phrase came from the Greeks: εἰς ὄνυχα. We sometimes say, 'perfect to a nail.'

With a rod in hand, one is able to judge very well of the irregularities in an unseen surface. In this case the intermediary is vastly increased without proportionally diminishing the delicacy and accuracy of the perceptive power. Some intermediary is necessary; for if the epidermis be removed and contact occur with the naked nerve, the sensation is one of pure pain merely, very different from tactile sensation.

§ **23.** The skin in certain places where perception is feeble is highly sensitive, as on the cheek; and where perception is acute, as at the finger tips, the sensation is commonly obtuse. The sensation is a familiar titillation, usually agreeable though unobtrusive in its gentler forms, as the feel of velvet; but it may become disagreeable and painful, as in tickling.[1]

The percept is tangibility, or that quality of body which excites the sense-perception in us by impact or contact. This does not imply area; *e.g.* a pin point or knife edge. The finger tips lightly tapped with a card give pure tangibility.[2] To this must be added the modified forms, roughness and smoothness. If the card be drawn along the finger tips, we experience one or the other. To produce these forms, motion of the surface touched is essential; but of the motion, touch does not inform us.[3]

---

[1] It should be observed here that there are other cutaneous sensations, as clamminess, temperature, and others. They belong to the *sensus vagus*, § 29. Also, that even at the finger tips the sensation may become predominant, as in touching a revolving grindstone.

[2] A drop of water falling on the palm, or the breath blown on the fingers, also excite the tactile sense-perception. Any motion of the fingers, hand, or arm, in what is called "active touch," or any perceptible pressure, confuses the tactile with muscular sense-perception, and with volition. In no treatise I have seen are these properly discriminated. Incomplete analysis causes doctrinal confusion. Hamilton even says: "The organ of touch [the fingers] requires, as a condition of its exercise, the movement of the voluntary muscles." — *Meta.*, p. 378.

[3] "I would establish," says Hamilton, "as a fundamental position of the doctrine of immediate perception, the opinion of Democritus [the Atomist,

§ **24.** An impact, say on the finger tips, excites the fibres of the tactile nerves; these convey the impression to the intercranial sensory, and consciousness ensues. The impression is attended by a vague sense of locality. Hence, analogous to sight, the percept of touch is primarily a special sensorial excitement, tangibility, with its modes roughness and smoothness, and secondarily, extension implied in the sense of locality. The extension herein given belongs to my own nervous organism. The locality on the periphery, the exact place touched, is not consciously given, but subsequently inferred from experience and observation.[1]

in his work *μικρὸς Διάκοσμος*, 420 B.C., rejected by Aristotle in *De Sensu et Sensili*, ch. iv.] that all our senses are only modifications of touch; in other words, that the external object of perception is always in contact with the organ of sense." — *Meta.*, p. 375. Herbert Spencer says: "Not only do the conclusions of the physicists support the doctrine which Democritus taught, but the conclusions of the biologists do the like. The organs of the special senses are every one of them developed from the dermal system, are modifications of that same tissue in which the tactile sense in general is seated. Nor is this all. It is a remarkable fact that the eye and the ear are, in their types of structure, morphologically identical with the *vibrissæ*, or most perfect organs of touch." — *Prin. Psyc.*, § 139, and *Prin. Bio.*, § 295. The reduction, if correct, seems of little consequence.

[1] Here again we hit upon the difficult question of the genesis of the apprehension of space. See § 19. That touch, as well as sight, is cognizant of extension is generally admitted, but explanations greatly differ. The view proposed in the text, that touch originally gives as a secondary percept a vague sense of locality, is so far nativist. That a more exact knowledge of the locality on the periphery is obtained only as the result of education, belongs rather to the genetic or empirical doctrine. But it must be added that the native cognizance of extension of body by both sight and touch is an empirical occasion for the pure intellectual apprehension of the notion of space. This point will be more fully expounded hereafter.

Lotze transformed the strictly empirical hypothesis into one more metaphysical and elaborate, called the hypothesis of local signs. Each feeling-point of the body, each "circle of sensation" on the skin, each sensitive point on the retinal expanse, has its local sign. This implies no original localization or cognizance of extension, but simply that each tactile or visual impression presents a peculiar character (*nuance*) that serves later to localize it at a certain point of the body. At first these impressions are purely intensive, and effect no special determination of any kind. Later the mind, by

§ **25**. Besides the percepts just indicated, touch is commonly held to give us knowledge of many other qualities of matter, and to tell us much about the external world. Also it is described as the instructor of the other senses, and the corrector of their aberrations. This arises from a confusion of touch with the muscular sense and voluntary locomotion. When closely interrogated apart, touch is silent concerning any qualities of body other than those named, and concerning even the existence of an extra-organic world. Nor is touch capable of certain lines of education commonly attributed to it, the acute perceptions of the blind being dependent rather on an educated muscular sense.

§ **26**. The sensor nerves of the muscles constitute the organ of the muscular sense. The terminal fibres of a distinct set of sensor nerves, more sparse than those of touch, are distributed to and penetrate the muscles.[1] The terminal fibres of the motor nerves also penetrate the muscular tissue. These motor nerves, generally under the influence of the will, cause muscular contraction, and thereby the enclosed sensor nerves are subjected to pressure. The pressure, whether produced thus or by the action of an exterior body, stimulates the sensor nerves, causing a neural disturbance which is propagated to the brain, and a sense-perception of physical solidity is the result.[2]

§ **27**. In order to observe the pure muscular sense-percep-

---

virtue of laws peculiarly its own, transforms these intensive data into extensive quantities, and produces "a reconstruction of space." — Ribot, p. 100.

Wundt accepts this hypothesis of local signs, but deems it insufficient. He rejects the *a priori* laws of mind in the case, and adds that the different impressions being accompanied by voluntary movement, there attends them a feeling of innervation, *i.e.* of the nervous discharge that attends voluntary effort. These two elements, local signs and movement, explain localization. Neither alone would give it, but the two, by a psychological synthesis, form a combination which is, on occasion, the notion of space.

[1] Demonstrated by Sachs in 1874.

[2] For historical notices of the muscular sense, see Hamilton in *Reid*, p. 867.

tion, some care is requisite that it be not mixed with that of touch, or modified by voluntary effort and movement. The weight of a limb freely hanging gives the simple and pure muscular sense-perception.[1]

The sensation is clearly marked as pleasurable or painful. The pleasure of physical exercise arises mostly from muscular sensations, and also the pleasant feeling in stretching. Fatigue is perhaps an increased degree of the feeling that accompanies all muscular exertion, and when moderate is not unpleasant. In straining and in cramp the violent contraction of the muscles causes an extremely painful pressure on the nerves.

The percept is physical solidity or impenetrability, one of the defining qualities of body. To this must be added its modifications arising from gravity, known as heavy and light, and from cohesion, known as hard and soft. As immediately perceived, these are affections of the excited sensory, which we learn to attribute to external bodies, meaning that they have power to cause these sensorial states in us.

In different parts of the general organ, as in case of touch, sensation and perception vary inversely. In many parts the perceptive power is very acute, is a most important means of information, and is susceptible of high education.

It must be noted that the skin under pressure, as when slightly pinched, gives quite the same sense-perception, and so far coincides with muscular sense. But, let it be observed, this impression is very different from the tactile impression proper, one point of difference being that the latter is acute, the former the massive; the one has intensity, the other quantity.

§ **28.** As the muscular sense is sometimes overlooked or not sharply discriminated even in scientific treatises, we will add some illustrations of its special importance.

---

[1] Neither Hamilton nor Mansel attribute any special percept to the muscular sense apart from voluntary locomotion. This seems to be very generally true of both psychologists and physiologists.

One's knowledge of the posture of his body, as standing, sitting, or reclining, and of the position and motion of his limbs, is dependent on this sense. All balancing of the body, though usually assisted by the eye, is largely due to the muscular sense, and this alone proves sufficient in the dark. In the feats of a tight-rope dancer, we see it highly educated. Also in the skilful handling of tools. In general, the varying pressures on the muscular sensor nerves furnish intimations that enable us to control our movements intelligently.[1]

The soles of the feet are highly sensitive to touch, and but feebly perceptive; while, on the contrary, the muscular sensation caused by their pressure under the weight of the body is unobtrusive, and the perceptive power remarkably acute. The tactile sense-perception is largely eliminated by wearing shoes, and it is by the muscular sense that we take knowledge of the ground we step upon. Its importance in walking is evident.

Our estimate of the weight of a body held in the hand is muscular and quite delicate.[2] The small muscles moving the eyeballs greatly assist us, by their various tensions, to judge of the direction, distance, and size of visible objects. The tongue is not only the organ of taste, and exceedingly sensitive to touch and to temperature, but it is also a very delicate muscular organ. By a distinct set of sensor nerves we are enabled to know the posture of the tongue, and to adjust it at will. Upon this fact largely depends the power of articulate speech.

---

[1] "The effort needed for the support of the body is ordinarily kept up by the muscular sense. But if the sensor nerve of the leg be paralyzed, the contraction of its muscles cannot be sustained by the strongest effort of the will unless sight be made to replace the lost feeling. The existence of this partial paralysis may sometimes be recognized by the persistent looking downward of those who suffer from it; for if whilst walking they were to withdraw their eyes from their feet, their legs would give way under them." — DR. CARPENTER, *Mental Physiology*, § 192. See also § 80.

[2] The estimate is determined by two considerations, — the pressure on the muscles underlying it, and the tension of those of the arm. By the former alone Weber found he could distinguish between 14½ and 15 oz.; but when the weight was lifted, exciting the muscles of the arm, he could then distinguish between 19½ and 20 oz.

Habitually, by an act of will, we fix certain muscles in a state of tension, and then trust them without further thought or volition, though we are probably conscious, obscurely and continuously, of their tension. Thus the muscles of the forearm keep the pen lightly held by the fingers while one is thinking what to write, the eyes remain open, the mouth closed, and the muscles of the back keep the body erect, without attention. A muscle thus fixed, like a soldier at an appointed post, does not relax until the order from headquarters is withdrawn or a new one given. There is hardly a waking moment when many muscles are not thus at appointed service, and but for their faithfulness when not under the eye of attention we should be incapable of our most ordinary occupations. When sleep overcomes us, will resigns, these tensions relax, and the system finds relief and repose.

§ **29.** An observation on the *sensus vagus*, the vital or organic sense, may be inserted here. It might be subdivided into a number of special senses pertaining to the nutritive and other vital functions, and concerned with health and disease. They are highly, almost wholly, subjective, appearing in visceral sensations, marked as agreeable when normal and healthful, but in case of disorder, strongly marked as disagreeable and often painful. In many cases they are diffused through the system, as restlessness, faintness, and the idiopathic sensations generally.

A number of organic senses are classed as desires under the name of appetites, as hunger, thirst, drowsiness, etc. This is the case when to the sensation is superadded a want, a longing for some physical alterative. These will be considered more specifically in their proper place under the head of Desires.

The sensations of heat and cold, being felt acutely by the skin, have commonly been attributed to touch. But the cheeks are more sensitive to temperature than the lips,[1] and the palms than the finger tips; so that sensitiveness to temperature does not correspond to tactile sensibility. The nerves exciting a sense of temperature constitute probably a system distinct from the tactile nerves. Certain minute areas of the skin, called "temperature spots," and these only, respond to thermal stimulus. Pricking them does not give pain, nor tactile sensation, but only a sense of heat or cold. For some of these minute areas, the "cold spots," are sensitive to cold only; others, the "heat spots," to heat only. They are very irregularly distributed, but where the skin is most sensitive to either temperature, the corresponding kind of spot is most numerous. These facts, and the fact that the sense of temperature is more percipient than the vital senses generally, suggest that it might fairly be classed as a *sensus fixus*.[2]

All overstrained sensations are painful. But there is a form of physical pain which may be distinguished from all others; it is the pain attendant on lesion. Since it is unaccompanied by any perceptional phase, it may be called pure pain.[3] We are wholly occupied with the subjective state, and perception seems reduced to zero. The distinction between pure pain and that attending sense-perceptions is in many cases obscure, especially in the idiopathic sensations of numbness, nervousness, shuddering, and the like; but in general it may be described as the pain attending lesion, disorder, disorganization, and death.

---

[1] The cheeks burn with a blush. A laundress usually tests her smoothing-iron by holding it near her cheek. The elbow is very sensitive to temperature, and the German mother tests the baby's bath with it rather than with her hand.

[2] Weber found that by the finger he could perceive a difference of about $\frac{1}{2}°$ F., which is less than that marked on common thermometers. We call a body cold when it draws heat from us, and warm when it imparts heat. The human zero is about 98° F. That of cold-blooded animals must be lower.

[3] Weber observes that if we place the edge of a sharp knife gently on the skin, tactile sensation is experienced, and perception attributes to the edge tangibility. But if we press on it and cut the skin, the feeling is one differing not merely in degree, but distinctly in kind. We feel pure pain, a feeling not attributed to the knife by any accompanying perceptional power; for the knife is recognized as the cause quite indirectly, only through the senses proper.

Physiologically and pathologically the *sensus vagus* is of the highest interest, but its study has added little to the knowledge of mind.

§ 30. If the foregoing views be correct, it is evident that, were we limited to the perceptions of sense, we would be shut up from a knowledge of the outer world, for no one of the senses, nor any combination of them, reveals to us aught beyond certain states of our own nervous organism. It will be hereafter explained that it is the power of voluntary locomotion, combined with sense-perception, that gives knowledge of external body, and introduces us to the outer material universe.

CHAPTER III.

THE NERVOUS ORGANISM.

§ **31.** Having spoken of the senses specially, we proceed to examine the sentient or nervous organism generally, in order that we may better understand the relation of consciousness to our physical changes.

Physiologists distinguish two nervous systems, — the sympathetic and the cerebro-spinal. The former consists chiefly of a double chain of nervous ganglia lying at the sides and in front of the spinal column, and connected with one another and with the spinal nerves by commissural cords. From these ganglia nerve trunks are given off, which are distributed in filaments for the most part to the vessels of the body. Accordingly, this sympathetic system is related especially to the viscera. It influences the muscles of the vessels generally, those of the heart, of the intestines, and others. The action of these muscles is beyond the reach of volition, and normally not attended by consciousness. Hence we may omit any special consideration of the sympathetic system.

§ **32.** The cerebro-spinal system consists of the cerebro-spinal axis, and the nerves branching from it. The axis consists of the brain and the spinal cord. The nerves are of two sorts. First, the afferent nerves, which convey influences from the periphery toward the centre of ramification, and are mostly sensor nerves exciting the brain, and so causing sense-perceptions. Secondly, the efferent nerves, which convey influences from the centre of ramification toward the periphery, and are mostly motor nerves contracting the muscles.[1]

§ **33.** There are twelve pairs of cerebral nerves. The first pair, the olfactory nerves, seem to be direct processes of the cerebral hemispheres or upper lobes of the brain. The second pair, the optic nerves, are traceable through the central organs, called the optic thalami, into the cerebral hemispheres. The rest seem to emanate from the medulla oblongata, the lowest member of the brain. The peripheral terminations of eight of these are distributed, some to the skin of the face, and to the cephalic sense organs, others to the related muscles. Some are afferent sensor nerves; others are efferent motor nerves. The two remaining pairs of cerebral nerves pass into the trunk.

§ **34.** The spinal cord is a column of soft gray and white neural substance, extending down from the medulla oblongata, with which it is continuous, nearly to the second lumbar vertebra, where it tapers off. It is divided longitudinally by deep fissures into two lateral halves connected by a narrow bridge.

There are thirty-one pairs of spinal nerves. They branch off in two lateral series, one from each half of the cord. Each trunk nerve has two distinct roots connecting it with the cord, one afferent and sensor, the other efferent and motor. After some continuity the trunk nerve subdivides; one portion, the motor, after many further ramifications, is distributed, in minute nervous filaments, to the voluntary muscles; the other portion, the sensor, after similar subdivisions, is ultimately distributed for the most part to the skin. Every voluntary muscle of the trunk and limbs is penetrated throughout its mass by filaments of the motor nerves, and the entire area of the skin has underlying it a complexus of filaments of sensor nerves so complete and close that it can nowhere be punctured by a needle without irritating them.

---

[1] The distinction between sensor and motor nerves was discovered and demonstrated by Sir Charles Bell in 1821, followed by Magendie. This discovery marks the most important epoch in neurological science.

§ **35**. When the skin, say of the foot, is touched, the terminations of sensor nerves immediately beneath are affected. The molecular disturbance thus begun is propagated at a slow rate (about 111 feet a second) along the tactile filaments to the nerve trunk, and along that through its posterior sensor root to the spinal cord; then along that to the brain and sensory, when consciousness ensues, a sense-perception of contact. This continuous neural connection is requisite to the normal excitement of the sensory, and the excitement of the sensory is essential to sense-perception.

Now, under the influence of will, another disturbance may begin, which proceeds from the brain down the spinal cord, out through an anterior motor root, into and along the trunk, then through the nerve filaments that penetrate the muscles, say of the calf of the leg, which muscles thereupon contract, and the foot is moved. This continuous connection between brain and muscle is essential to voluntary locomotion.

§ **36**. The circuit may take place differently. If the sole of the foot be touched with a feather, in an instant the muscles of the leg contract, and the foot is jerked away. Consciousness occurs, but too late for the action. The thing is done before the will has time to act.[1] If the spinal cord have suffered lesion about the middle of the back, so great as to cut off communication between the lower limbs and the brain, the same action occurs, but without consciousness.[2] In either case the action is involuntary, instinctive, automatic.

[1] This movement is made by a sleeping person. The hand of a babe asleep will close upon a coin as quickly and firmly, in proportion to its strength, as the hand of a vigilant miser.

[2] This case actually occurred with Dr. John Hunter, who asked his astonished patient if he felt the tickling. "No, sir," said he, "but you see my legs do." — CARPENTER, *Mental Physiology*, § 68.

The interpretation is that a molecular disturbance is propagated centripetally from the sole of the foot along afferent nerves to ganglia of the spinal cord, and that it there arouses a comparatively vast amount of molecular activity, which is propagated centrifugally through efferent fibres to the muscles of the leg. This is called neural reflex action, which, in general, may be defined to be the direct conversion, at a ganglionic nerve centre, of afferent into efferent impulses, without the intervention of will, or even of consciousness.[1]

Many muscular activities are due to reflex action. Some are determined by the spinal ganglia, as swallowing, vomiting, shuddering; others, by the brain (which comprises ganglionic centres), as winking, and the facial grimace at a bad smell. In a number of cases the involved sensor and motor nerves are partly cerebral and partly spinal, as in breathing, shrinking from a blow, and starting at a sound. All native reflex actions, being involuntary and automatic, are strictly physical instincts.[2]

§ **37.** A form of activity originally voluntary may by frequent repetition become involuntary and purely automatic, the activity being then determined wholly by the reflex action of the nervous system. In the process there is a gradual and more or less complete transfer from mental agency to physical agency. This is muscular education, the acquisition by repetition of a physical habit or muscular dexterity. Examples are, learning to walk, to dance, to write, to handle tools, to play a musical instrument. Such actions are never performed with ease, grace, and skill, until they have become largely mechanical, and the performer an automaton. An act of volition is usually requisite to start the series of movements, which then continues automatically by mere reflex action. Being obscurely conscious of the series as a whole, without distinguishing its members, we superintend its course, and are ready at any instant to interfere by volition, and so check, modify, or suspend the action.[1]

---

[1] The reflex action of the nervous system was discovered by Dr. Marshall Hall, and announced in *Philosophical Transactions* for 1833. It is evidently not a mere rebound, as the phrase (first used by Astruc) suggests, of the afferent impulse into an efferent channel, but rather as if an order were given along the afferent nerve to a ganglionic centre, and executed by it often with a vast expenditure of force. An unexpected whisper from behind, in the ear of a nervous person, is a very slight impulse, which passes along the afferent auditory nerve to the medulla oblongata, and there causes a kind of explosion which affects the majority of the motor nerves of the whole body, manifest in a violent convulsive start, to which is added perhaps a scream, all this enormously disproportioned result being involuntary, instinctive reflex action.

[2] In the winking that moistens or guards the eye, the optic nerves are the afferent, and the facial nerves the efferent, channels. In the grimace at a bad smell, the olfactory nerves are the afferent, and the facial nerves again the efferent, channels. All these nerves are cerebral. Other examples are the contraction of the iris under the stimulus of strong light, the contraction of the ciliary muscle in the adjustment of the eye to distinct vision, and the muscular adjustment of the tension of the tympanic membrane of the ear to sounds of various intensity. The flow of saliva excited by a sapid body, and

It is evident that in reflex action we have a complete

---

the flow of tears excited by a mote in the eye, are remarkable as reflex action on glands instead of muscles.

In many cases the nerves belong partly to the cerebral and partly to the spinal series. For example, the sucking of an infant. Cold on the face, as from the action of a fan, stimulates respiration. When one's toes are trod upon there is a sudden, instinctive, involuntary outcry and a wry face. Warding off a blow, and all instinctive gesticulation are cases in point.

It should be observed that the reflex action upon the voluntary muscles can be more or less completely inhibited by the will of the patient. If he anticipates the consequence of the impression, he can in most cases prevent its occurrence by a resolute resistance. *E.g.* writhing, jerking, and laughing, the natural effects of tickling, may all be restrained, and quiet maintained under it. The inhibition in many cases may become habitual, and the muscles cease to respond to the excitation.

[1] In walking, the reflex action is sustained by the successive pressures of the feet on the ground, each of these exciting the next movement. Numerous instances are on record of a soldier continuing to march although fallen asleep.

Houdin practised juggling with balls until he could keep in the air four balls at once. He then accustomed himself, still keeping the balls going, to read without hesitation or distraction. — *Autobiography*, p. 26. I myself have seen a pianist reading a novel placed on the music desk while practising intricate finger exercises.

explanation of acquired skill, dexterities, and habits, without recourse to a theory of obliviscence, or to one of latent volitions or other unconscious modes of mind. It is an explanation now universally approved, and transfers the further consideration of these phenomena from psychology to physiology.

§ **38.** The anatomy of the brain is intricate, and the functions of its members are obscure. The lowest part is the medulla oblongata, into which the spinal cord passes insensibly. In rear of its upper portion is a laminated spheroidal mass called the cerebellum. Above and in front of these stands the cerebrum, consisting of two symmetrical halves, called the cerebral hemispheres, connected by a voluminous commissure. Each hemisphere presents a central mass and a peripheral envelope, which last is marked superficially by numerous and intricate convolutions.[1]

§ **39.** The neural matter of the organism in general is of two sorts, — the white and the gray matter. The white matter is fibrous in structure, even where it lies in masses; the gray matter is cellular. The nerve fibres and trunks consist of white matter. The spinal cord and the medulla consist of both, the white outside, the gray within. The cerebellum and the cerebral hemispheres also consist of both, but with them the gray is outside, and the white within. The central mass, which presents a number of distinct organs, consists of the two kinds of matter variously intermixed. Apparently the function of the white fibrous matter is to transmit impressions; that of the gray cellular matter, to receive, transform, and emit impressions.

The peripheral or outer organs of sense and of motion are, with two exceptions (sight and smell), connected by white fibres with the medulla. This again is similarly connected with the various organs which constitute the central mass of each cerebral hemisphere. The fibres penetrating these organs are probably in communication with their gray cellules. From these cellules start out other white fibres, directed towards the cortex of the hemispheres, in such vast numbers that the white matter of each hemisphere presents the appearance of a solid mass. These fibres terminate probably in the gray cellules of the cortex. The central organs thus seem interposed, in the course of the cerebral fibres, between their common receptacle, the medulla, and their central terminations in the outer coating of the brain.

---

[1] "Les difficultés que présente l'étude de la physiologie cérébrale sont grandes. Il n'y a pas seulement divergence d'hypothèses; les faits eux-mêmes ne sont point certains, et les contradictions abondent. C'est dire que la base sur laquelle doit s'élever l'édifice fait encore défaut." — M. DE VARIGNY, in *Revue des Deux Mondes*, Oct. 15, 1880. The article reviews especially Dr. David Ferrier's investigations.

§ **40.** This anatomical disposition seems to indicate that the central organs of the hemispheres are not, as has been supposed, the place where sensitive impressions terminate and in which motor incitations originate. Rather the peripheral convoluted envelope or cortex of the hemispheres would seem to be the seat of those molecular changes which are attended by consciousness, and transform sensor into motor influence. This is the doctrine which now tends to prevail among physiologists. Recent observations and experiments have rendered it at least highly probable that specific superficial tracts of the hemispheres are in their functions essential to specific sense-perceptions, others to voluntary muscular action, and yet others to specific modes of intelligence. Dividing the hemispheres into three zones by nearly vertical planes, sense-perception has been attributed to the cortex of the posterior zone, and the sight centres definitely located; motor powers have been attributed to the middle zone, and intellectual powers to the anterior zone.[1]

---

[1] Until quite recent times the central mass was the chief object of study, and the convolutions were neglected. Hippocrates saw in them only a gland; so also Malpighi and Vieussens. Ruysch, struck with their vascularity, considered them a simple *lacis sanguin;* Boerhaave and Haller adopted this

§ **41.** There is a reasonable supposition that the various centres of the brain operate and interact, in a manner akin to the reflex action already described, at times when the mind's activity is temporarily suspended or engrossed by other impressions; and that the results of this brain work, of which at the time we may be wholly unconscious, become manifest subsequently in an increased facility of mental exercise in certain directions, in new suggestions, and even in elaborate intellectual products. This is the hypothesis of unconscious cerebration. It serves to explain a number of phenomena which otherwise are obscure. The invigorating influence of rest and sleep is no doubt due to the restoration of nervous waste, and a readjustment of functional powers. The refreshment found

conclusion. Vicq d'Azyr was the first to examine their structure; since then Baillarger, Ehrenberg, Purkinje, Meynert, Luys, Betz, and Charcot have made them precisely known. So much for the anatomy.

As for the physiology, Gall maintained that intelligence is a function of the convolutions; Desmoulins, that it is in direct proportion to their number and depth; which, indeed, seems to have been affirmed by Erasistratus, the grandson of Aristotle. In 1861, Broca, taking the notions and facts of Dax and Bouilland, and adding his own views, announced the first-known localization, that of articulate speech or word-forming power, in the third frontal convolution of the left hemisphere.

In 1870 two German savans, Fritsch and Hitzig, passed a current of electricity across the head behind the ears, and observed that it determined the movement of the eyes. This was an epoch-making discovery. By varying the experiments it was established that in the periphery of the brain there is a part appropriate to the production of movements, *i.e.* a motor region; and another where excitation does not provoke any exterior manifestation, *i.e.* a non-motor region. Moreover, the motor region is subdivided into a certain number of small tracts, each of which presides over the motion of a particular group of muscles, and of this group only. Such is the point of departure of the theory of cerebral localization.

David Ferrier advanced beyond these conclusions, and it appears to result from his investigations that the convolutions, both in man and in brutes, are divided into three regions, as stated above in the text. See his *Functions of the Brain*. Of late the matter has been much discussed, and authorities greatly differ. *Adhuc sub judice lis est.* The literature is abundant. The reader may profitably consult Ladd's *Outlines of Physiological Psychology* (1891), chs. 8 and 9. Also *Am. Journal of Psychology*, April, 1891; article iii., on *Cerebral Localization.*

in passing from one mental occupation to another is due to the employment of a different set of organs, giving the others time for renewal. It seems, therefore, no very violent supposition that the brain, apart from all consciousness, may evolve actual products which afterward come into mind, and startle us as strange, unsought, unexpected.

We have seen that conscious voluntary exercise of the muscles becomes by repetition involuntary and automatic, and is performed under nervous influences with a minimum of consciousness, or perhaps unconsciously. Similarly, the brain may fairly be supposed to acquire habits, and to operate with facility along certain lines of preferred activity independently of consciousness. This analogy goes to support the hypothesis of automatic brain action, or unconscious cerebration.[1]

§ **42**. In psychology proper or pure, which is altogether subjective, being concerned only with the facts of consciousness, there is no need to determine the functions of the various brain organs, or to fix upon distinct sensor and motor centres, or to ascertain what work the brain does apart from mind. These interesting and important questions belong rather to physiological psychology. There is no doubt that the cerebral hemispheres are the seat of physical powers essential to the phenomena of consciousness. This general fact of neurology is sufficient for psychology; and so, when occasion requires the reference, we shall continue, as heretofore, to designate in an indefinite way, the brain organ, or complexus of organs, whose functional exercise is attended by consciousness, as the sensory, and the place within the cranium where this exercise occurs, as the sensorium.[2]

---

[1] See Dr. Carpenter's *Mental Physiology*, ch. 13, for arguments and striking illustrations.

[2] Sensorium is a place, not an organ. "Bene multi barbarum scholasticorum, qui interdum sunt simiæ Græcorum, dicunt *Αἰσθητήριον*. Ex quo illi fecerunt *sensitorium* pro *sensorio*, id est, organum sensationis." — GOCLENIUS, *Lexicon Philosophicum*, ad verb. Leibnitz emphasizes this.

CHAPTER IV.

PHYSIOLOGICAL PSYCHOLOGY.

§ **43.** It is evident that the facts considered in the preceding chapters are in the main physiological, and that the inferences have been made from this objective standpoint. The neural functions, especially relative to sense-perception, have been briefly treated, and some important general conclusions reached respecting the relation of physical to subjective or psychical states. The whole of this introductory part, might, therefore, be included under the title of Physiological Psychology, which has been widely described as "psychology approached from the physiological side or point of view," and more accurately defined as "the science of the phenomena of human consciousness in their relations to the structure and functions of the nervous system."[1]

But the phrase may be fairly, and indeed is commonly, understood to refer specifically to certain researches with their results which have been prosecuted with great zeal of late years. The investigator, starting with physiological facts, and seeking to discover what elementary psychological facts are connected with them, adds external experiment to internal observation. He begins without and seeks to penetrate within experimentally. The method consists in varying the external conditions that are necessary to produce the internal phenomena, the former being a doorway to the latter. Moreover, he proposes, as far as practicable, to measure the quantities of the phenomena, and thus elevate psychology, from a science of classification and description, to the rank of an exact science in which determined quantities are superadded to observed qualities.[1] The avowed end is to construct a new psychology on a new basis, the means being physiological. This is Physiological Psychology in the narrower sense. Accordingly, under this title, we now propose to give a brief sketch of the work done and the results attained, together with an estimate of their value.[2]

---

[1] Ladd's *Outlines*, p. 5. See also his more elaborate *Elements of Physiological Psychology*.

§ **44.** Johann Müller, the famous physiologist of Berlin University, in metaphysics a disciple of Kant, is the founder of this branch of psychology. In his great work on physiology[3] he pays much attention to psychological questions, and endeavors to assign an objective basis to the subjective forms in intuition. He transformed, for example, the Kantian doctrine of space, claiming that the retina has a native feeling of its extension.

Subsequently each kind of sensation became an object of research, the qualitative and intensive differences being carefully estimated. E. H. Weber, of Leipsic (1840), first subjected consciousness to methods of exact experiment. He published the results of nearly twenty years of the most painstaking observations on the effects of touch and pressure, in a Latin monograph, and wrought out the first form of the psycho-physical law, the exact application of which is now reduced to narrow limits chiefly by the labors of Fechner.

Helmholtz, the physicist of Berlin, having measured the rate of nervous propagation, was followed by Donders, who attempted to determine the duration of psychic acts. Sensation was specially studied, and inferences made to other mental activities.

---

[1] Certain scientists, physicists especially, are disposed to claim that no complement of knowledge can properly rank as a science until it has become quantitative. We cannot assent to this. Science is primarily and essentially qualitative classification. See § 50.

[2] See Ribot's *German Psychology of To-day*, to which I am indebted for many points. A fair sketch of *Experimental Psychology*, by Professor, now President, G. Stanley Hall, will be found in *Mind* for April, 1885.

[3] *Handbuch der Physiologie des Menschen*, 2 vols., 1841–44.

Besides the *savans* already named, Herbart, Dubois-Reymond, Volkmann, Lotze, Delbœuf, Exner, Wundt, Zeller, Hall, and many others, have contributed to this branch of psychology, most of them being distinguished in other departments of scientific research.

Wundt of Leipsic is perhaps the most eminent living representative of experimental psychology. He alone, says Ribot, has treated it in all its area. He alone has made a complete and systematic study of its problems from this standpoint. The unity of his work arises from his method. It is based on the data of physiology. It deals directly with sensation, which he distinctly considers the basis of all psychology, and further with involuntary movement, language, and the natural expression of feelings; indirectly it deals with the will, attention, complex notions of space and time, the general notion, the æsthetic and the religious feeling. When physiology fails, recourse is had to anthropology, ethnography, history, or statistics. To introspection, which cannot be set aside, it adds external observation and experiment, seeking where possible to apply quantitative measurement. This is physiological psychology in its widest sense.

§ **45.** We shall now attempt a brief sketch of the subordinate branches psycho-physics and psychometry, in order that the reader may have a more definite conception of the methods and results of physiological psychology.

Weber inferred inductively, from his experiments on length, weight, sound, etc., a general law. Its formula is: "Sensation grows with equal increments, when the excitation grows with relatively equal increments." By relatively equal increments is meant a constant fraction of the successive excitations.

From this starting point Fechner pursued his studies whose results were published in 1860 under the title Elements of Psycho-physics. He says: "I understand by psychophysics an exact theory of the relations of soul and body, and in a general way of the physical world with the psychical world." But though he thus proposes to give a general theory, his experimental research bears definitely on a single point — the relation of excitation and sensation. To determine this, he spent years in experiment and calculation. His object is to measure sensation, passing from mere quality to exact quantity. For sensations obviously have both quality and intensity or quantity. Thus red, blue, green, are qualities marking kinds of color, but each varies in intensity. So every sensation has a quantitative value. Now what better means for estimating this value of a sensation can be found than the external movement from which the sensation arises? The excitation is not only the most direct, but perhaps the only possible measure of sensation. It is the intensity of the cause used to estimate the intensity of the effect.

To measure the differences in intensity of a given sensation, Fechner applied his "method of smallest perceptible differences."[1] If an imperceptible difference between two weights be caused to grow, it will at last become just perceptible. This minimum difference he adopted as a unit of sensation. Having obtained it, by numerous experiments, for sensations of pressure, of temperature, and of sound, he concluded, in order that each of these sensations shall increase by its smallest perceptible difference, the excitation must increase by one-third of its intensity.[2]

In order to construct a scale of magnitudes, besides the unit of division, the zero point must be ascertained. Evidently in these cases the zero is where the incipient sensation arises. The quantum of excitation requisite to produce this beginning of sensation was called by Herbart the value of the threshold of the stimulus or excitation (*Reizschwelle*). It was needful, therefore, to determine, if possible, by a series of observations and experiments, the exact threshold value for each kind of sensation. Accordingly, it was determined for pressure on various parts of the body, for temperature, for sound, and for light.

---

[1] Fechner supplemented this method by two others, "the method of true and false cases," and "the method of mean errors," all leading by different routes to the same end.

[2] He found that light requires an increase of only a hundredth part of its intensity, in order to cause a perceptible difference.

The zero of each being fixed, and the scale constructed, a comparison of scales revealed a uniformity which Fechner formulated into his now famous Law of Psycho-physics. One expression is: The excitation must grow in geometrical progression in order that the sensation shall grow in arithmetical progression. One more exact is: The sensation varies as the logarithm of the excitation.

§ **46.** How shall we estimate the value of this law? By the fierceness of the contention which has arisen about it? Then surely it is of very great weight. Hering of Prague attacked psycho-physics at all points, denying the conclusions of Fechner, especially that the logarithmic law follows from Weber's law, and that it has any wide generality. His is the severest assault that the partisans of the doctrine have had to meet. Delbœuf defends Fechner on some points, but will not allow the mathematical form which his work assumes. In short, he rejects a part of the doctrine, and modifies what he does not reject. To his denial that the smallest perceptible difference is constant, Wundt replies that it is necessarily so; for "if the change of either of the two sensations compared were greater or less than the other, it would be therein greater or less than the perceptible minimum, which is contrary to the hypothesis." But while defending this fundamental point, Wundt does not accept the entire doctrine, he having original views respecting the measurement of psychic facts. Zeller argues the impossibility of their absolute measurement, and Wundt replies that by similar reasoning it might be maintained that no external natural phenomena are measurable. The discussion has been wide, profound, and seems interminable. "Fechner," says Delbœuf, "has against him both his declared adversaries and his more or less faithful disciples." To this Fechner replies: "The Tower of Babel was not finished because the workmen could not agree as to the method of constructing it; my psycho-physical monument will remain because the workmen cannot agree as to the method of destroying it."

"The most that can be said," Professor Ladd concludes, "is this: The law summarizes many facts reasonably well within a certain range of sensations lying near the middle of the scale of quantity, and for certain of the senses." Ribot sums up the results of criticism thus: "First, that under its mathematical form the law of Fechner cannot be accepted. Second, that observation and experiment show that, generally speaking, sensation grows more slowly than excitation. Thirdly, that though it be verified within certain limits for visual and auditory sensations, it is contested for pressure, and does not hold for the other sensations."

§ **47**. Experiments have been made to determine the time occupied by certain mental acts, and the results given under the title Psychometry. It has always been a common belief that some time, however short, is required to think, to remember, and even to feel. Measurements of this time were made, especially by Donders, followed by Exner of Vienna, Wundt, Kries, and many others, from 1860 to 1880, with fair chronoscopic accuracy.

In 1850 Helmholtz, incited by the views of Dubois-Reymond on the electric properties of nerves (1849), ascertained by experiment the time of the transmission of neural action through a definite nerve length.[1] Other scientists renewed the investigation, and the average of results is given by Hermann (1874) as 33.9 metres, or about 111 feet a second.[1]

---

[1] He excited the nerve near the muscle on which it acts, and noted the time between the excitation and the contraction. Then repeating the experiment at a point more distant from the muscle, he found the time to be greater. The difference of distance in the difference of time gives the rate.

This being settled, suppose a patient to receive a slight electric shock in his finger-tip, and to respond as promptly as possible by a tap with a finger of the other hand. The total interval, called the reaction time, is found to be about 0.15 of a second. Now it is evident that this period consists of three parts: first, the time of transmission from the finger-tip to the brain along a sensor nerve; second, that from the brain along a motor nerve to the muscle moving the other finger, these two together being called the physiological time; and third, an interval occupied by sense-perception and volition, called the psychological or psychic time. Now subtracting the physiological time from the total or reaction time, 0.15 sec., we have the psychic time, equal to about 0.08 sec.[2] The experiment has been performed a great many times, and modified for the different senses.

Efforts have been made to analyze the psychic interval into the time of sense-perception and the time of volition. It is concluded that the duration of volition depends chiefly on the more or less direct connection between the sensor and motor centres. When this mechanism, and also the natural quickness and habits of the patient, these last constituting his "personal equation," are favorable, the time for the volition is much diminished. It should be added that the expectation of the patient, and the degree of his attention, as well as the intensity of the stimulus, shorten the reaction time.

Various methods have been employed to measure the discernment time, *i.e.* how long it takes to distinguish one of two impressions of sense. In one method the patient is warned to expect one of two colors named, but is not told which. He is to decide which appears, and to signal the instant the discrimination is effected. The mean time, from many experiments by this method, was found to lie between 0.047 and 0.086 of a second. Combining it with the results of other methods, the discernment time is found to vary, when the conditions are of the simpler sort, from 0.1 to 0.03 of a second or less.

---

[1] The rate of this propagation is comparatively slow, being only about $\frac{1}{10}$ that of sound waves in the air, which is 1120 ft. per sec. at 60° F. Its nature is unknown. Clearly it is not electric. It may perhaps prove to be electrolytic, or analogous to electrolysis, whose rate has not, I believe, been determined, though it would seem easy to measure the retardation, if any, of the electric current through an electrolyzed medium.

[2] It would be better to call this psycho-physical time, because during this interval the central physical changes in the cerebrum also take place.

Similar investigations on the time required to reproduce ideas by memory conclude in general: first, that the reproduction takes longer than the original production; second, the time depends largely on the degree of attention given to the original production, and also to that given to the reproduction.

Finally, the time requisite to a logical process, say the subordination of a species under its genus, has also been a matter of experiment. It is found that the time is shortest when the subject is concrete and the predicate a narrow class, *e.g.* lions are cats; and longest when the subject is abstract and the predicate a notion of wide generality, *e.g.* holiness is the sum of perfections. This is what might be expected from the comparative difficulty of the thoughts. The experiments result in an average of about one second.[1]

§ **48**. Thus in the most elementary manner we have tried to give a glimpse of what has been done and is doing in physiological psychology. It is obviously a bare beginning on a new line, and what may come of it no one can say. But the limitations to which it is necessarily subject forbid the notion that it can ever occupy a chief position in the science of mind. The possibly measurable quantities in the case are only intensity and duration. The measurement of intensity is rendered very doubtful by the questionable character of the unit of sensation employed. And how may we hope to find units for the measure of higher feelings? Measurement of duration does not encounter this difficulty. But is not the so-called psychic interval due to the cerebral movements on which the mental process is conditioned? If so, then this is a neural and not a mental measurement. Aside from these points, it is evident that the microscopic character of the work, the variations due to individual differences, and to other unavoidable causes, limit reliable experiment to the simplest cases, and in these prevent results of more than an average and tentative value.

---

[1] Baldwin's *Handbook of Psychology*, p. 112.

Moreover, when we take into consideration the impossibility of even approaching the higher powers of mind by such experimentation, our esteem for the method greatly diminishes. All the higher processes which constitute the rational, emotional, and volitional life of man are out of its reach. Ribot, an extreme partisan of the "new psychology," himself says, "In all that concerns these phenomena, experimental research is necessarily useless." Yet these are of pre-eminent interest, and constitute the great ends of psychological science.

It may therefore fairly be asked, when all the patient, tedious, minute labor demanded by this method in its narrow field is done, and results apparently so insignificant attained, are they worth their cost? It is impossible to say. Let us remember the lesson, so often taught in the history of scientific investigation, that no one can forecast what may come of a search in the dark, and that any fact well established is an addition to the sum of knowledge that may prove of inestimable worth. The difficulties, the obstacles which the physiological psychologist encounters, are very great, but perhaps they may be conquered at last, and we should encourage the audacity that attacks them. The field is new, barely broken and unpromising, but we must admire the patient zeal, the earnest hopefulness that labors for fruitful results where but few, if any, are possible.

§ **49**. It is important to observe that this mixed psychology is, in all of its aspects, subordinate to and dependent on pure psychology.

Evidently neither physiology alone, nor psychology alone, can ever give knowledge of the other. Pure psychology is strictly a subjective science, a science of introspection; pure physiology is strictly an objective science, a science of external observation. It is true that mental action being in direct connection and correlation with neural action, neither can be fully understood without regard to the other. For it is within the province of psychology to trace the mental conditions of knowledge and feeling from the inner towards the outer world; and it is within the province of physiology to trace their physical conditions from without towards the inner circle of experience. But neither can penetrate into the domain of the other.[1] The most perfect analysis of the facts of consciousness could never reveal the functions or even the existence of the outer organs of sense, nor the objective existence, in its physiological aspect, of the cortex of the brain or sensory, the inner organ of consciousness. On the other hand, the most profound and exhaustive study of neurology can never explain the facts of consciousness, or even confirm their existence. If all the cells and fibres involved in each intellectual act or emotional state were numbered, measured, weighed, and their changes exactly ascertained, if all the circulating, thermal, chemical, and electrical motions were exactly formulated, the utter unlikeness between the objective phenomena and the correlative subjective phenomena would completely debar the passage from one to the other, and afford not the slightest knowledge of the intellectual act or emotional state.[1] Between the objective and the subjective there is a great gulf fixed. Whatever relations are discernible, it is impossible that the one class of facts should ever replace the other, or that either should ever be interpreted in terms of the other.

---

[1] Says Bain: "Mental states and bodily states are utterly contrasted; they cannot be compared, for they have nothing in common except the most general of all attributes — degree, and order in time; when engaged with one we must be oblivious of all that distinguishes the other. Our feelings and thoughts have no *extension*, place, form, or outline, no mechanical division of parts; and we are incapable of attending to anything mental until we shut off the view of all that." — *Mind and Body*, p. 135.

In consequence, however, of the essential connection of mind and body, the phenomena of each stand to those of the other in the relation of cause and effect.[2] Upon this the mixed or physiological psychology relies, and seeks in its narrow field a more exact expression and measurement of the facts. Nervous process in its single aspect belongs to physiology; nervous process in this double aspect belongs to the mixed psychology. It studies psychical variations indirectly by the aid of physical variations that can be produced directly. It has for its object the facts of consciousness that accompany nervous phenomena.

This combination of two distinct sciences implies a knowledge of each. The physiology of the nervous system must be known to some extent before nervous action can be made the basis of higher experimentation. The better it is known, the more hopeful the procedure. Likewise, the combination, instead of excluding the results of the pure psychology, presupposes them. One must know what the phenomena of consciousness are, must analyze and classify them, must know their relations and laws, before any hopeful attempt can be made to produce and measure them. One must know himself as thoroughly as possible by an internal study of himself, together with a comparison of this observation with the observation of others and by others, before he can reasonably enter on an investigation of the quantities of the ascertained facts. Professor Ladd very truly says: "The phenomena of consciousness as primary facts can be ascertained in no other way than in and by consciousness itself. Whatever fault may be found with the so-called introspective method in psychology, on account of its alleged inaccuracy, lack of scientific and progressive quality, etc., from the very nature of the case, no other way of ascertaining what the phenomena of consciousness in themselves are can ever take the place of the direct examination of consciousness. And there is no way of directly examining consciousness but the way of being conscious of one's self."

---

[1] Professor Tyndall says: "Let the consciousness of love be associated with a right-handed spiral motion of the molecules of the brain, and the consciousness of hate with a left-handed spiral motion; we should then know when we love that the motion is in one direction, and when we hate that the motion is in the other, but the *why* would still remain unanswered." Dr. McCosh adds: "Not only so, but without self-consciousness we could never know that there was love, or that there was hate, or that they had any connection with the motions of the brain."

[2] It was a sore problem with the earlier philosophers as to how mind and matter could interact. Descartes solved it by his theory of occasional causes. Leibnitz solved it by his theory of pre-established harmony. Both had recourse to the *Deus ex machina* of the ancients. For these historic curiosities, see Hamilton, *Meta.*, p. 208 sq., or any History of Philosophy, *e.g.* Ueberweg's, § 114 and § 117. We accept the interaction as an ultimate, inexplicable fact.

Let us then enter upon the study of the pure psychology, a very old science, since it has Aristotle for its founder, fully persuaded that during the twenty centuries of its continuous life, matter worthy of preservation has accumulated, and that it can never be superseded so long as there are subjective facts to be investigated, so long as consciousness is the ultimate ground of all science.

ELEMENTS OF PSYCHOLOGY.

PART FIRST.

CONSCIOUSNESS.

CHAPTER I.

PRELIMINARY DEFINITIONS.

§ **50.** Psychology is the science of the phenomena of mind.[1] The several terms of this definition call for some explication.

A science is a logical system of truths. Its matter is exhibited in a fixed terminology of precise definition, and in a thoroughly systematized classification. It is a complement of knowledge, a knowledge of the principles and causes of the things and events within its bounds, and of their essential relations, excluding accidental matter.[2]

Sciences are speculative and empirical.[3] Speculative or

---

[1] The word *psychology* is from ψυχή, soul, and λόγος, a reasoning or discourse. Aristotle has a treatise περὶ ψυχῆς, the *De Anima*, but the term *psychology* is quite modern, not being found earlier than 1575. Goclenius first adopted it as a literary title in 1594. Coleridge apologizes for using the *insolens verbum*, but it is now familiar, and the approved title in all European languages of the subject before us.

[2] Science, Lat. *scientia*, from *scire*, to know; Grk. ἐπιστήμη, for it leads to some stop or boundary of things (ἐπὶ στάσιν). This etymology is given by Plato in the *Cratylus*, p. 434 a, ed. Steph. But cf. p. 412 a, ἡ ἑπομένη τοῖς πράγμασιν.

[3] Speculative, Lat. *speculari*, to spy out or look into, from *specere*.

a priori science is a method of pure thought, deducing its system from intuitive, necessary principles by the synthesis of these principles alone; as philosophy, logic, mathematics. Empirical or *a posteriori* science arises from the facts of experience and observation, and through inductive inference develops its system by the analysis and synthesis of these facts; as psychology, physiology, chemistry.[1] Though necessarily involving intuitive principles, empirical science is a knowledge of facts as distinguished from principles,[2] and may be defined as a science of facts generalized and inductively formulated in laws from which deductions are made.

Empirical, Grk. *ἐμπειρία*, experience. Empirical or historical knowledge, the knowledge of experience, is the knowledge that a thing is, *γνῶσις ὅτι ἔστι*. Speculative or philosophical knowledge, the knowledge of ratiocination, is the knowledge why or how a thing is, *γνῶσις διότι ἔστι*. "*Ὅτι scientiæ fundamentum est, διότι, fastigium.*" — TRENDELENBERG, *Elem. Log. Arist.* See Sir William Hamilton's detailed account of the term empirical in *Meta.*, Lec. 3.

[1] The phrases *a priori* and *a posteriori* were used by the schoolmen in a sense derived from Aristotle, the former to denote a reasoning from cause to effect, the latter a reasoning from effect to cause. More commonly now, in logic, they are used to distinguish between the deduction of a special case from first principles, and the induction of a general truth from observed facts. In philosophy and psychology knowledge *a priori*, according to Kant, is that which is independent of all experience, and logically prior to it; knowledge *a posteriori* is that acquired by observation of facts, and therefore dependent on, and logically posterior to, experience. The one is knowledge of pure, the other of empirical, truth. — *Critique of Pure Reason*, Int., § 1. Cf. Esser, *Logik*, §§ 4 and 12; Fries, *Logik*, § 124. Also Hamilton, *Meta.*, p. 285, and *Logic*, p. 385 (Am. eds.), and his note in *Reid's Works*, p. 762. Also Thompson, *Outline of the Laws of Thought*, §§ 32, 33; and Trendelenburg, *Excerpta*, p. 81.

[2] Principles (*principia*, *αἱ ἀρχαί*, beginnings, elements) are those primary truths which underlie all knowledge. They may either be stated as original elements, in which case they are constitutive, or be formulated as original laws, in which case they are regulative. When taken in a more general sense, the word *principle* denotes that on which some other truth depends. In this use we may distinguish between a primary or first principle and a secondary principle; though in strictness the one phrase is tautological, the other self-contradictory. Aristotle notices several meanings of *ἀρχαί*, and says: "What is common to all principles is that they are the primary source from which anything exists, is produced, or is known." — *Meta*, iv. 1, 3. Cf. Descartes, *Principia*, *Epist. Ant.*

A phenomenon is that which appears, either to the external or to the internal sense.[1] It is anything manifest to mere observation, as distinguished from the elements into which it is resolved, and the forces and laws by which it is explained. The moon and its changes, if observed, are physical phenomena, antecedent to any explanation. The facts of experience, or more generally of consciousness, are psychical phenomena.

Since the phenomena of mind are facts of experience, psychology is an empirical science. It becomes a science by inferring from these facts obtained by introspection universal propositions which are formulated as laws of mind, and is therefore an inductive, *a posteriori* science. And since these facts are modes of consciousness, it may very well be defined as the science of the facts of consciousness. It is the natural history of mind, the science of human nature.

It is true, however, that on analyzing the facts of consciousness we shall find certain elements that are not empirical, not given by, but along with, experience. A consideration of these elements will carry us beyond the bounds of empirical science into philosophy. In this, and perhaps other respects, psychology leads so directly into metaphysics that it is not desirable, and indeed hardly possible, to observe strictly the bounds of these sciences. Whenever, then, it seems needful to elucidate the matter in hand, to confirm the doctrine, or to augment our information, we shall freely transgress the limits of empirical psychology, and touch upon metaphysical inquiries.[2]

---

[1] Phenomenon, φαίνομαι, to appear. In the Kantian philosophy, phenomenon is opposed to noumenon or thing in itself (das Ding in sich); that is, the real taken absolutely. Phenomena are things in consciousness; noumena are things out of consciousness. — *C. P. R.*, p. 178. A phenomenon, then, is the thing as presented to external or internal sense, as it stands related to mind. Perhaps more fundamentally and strictly a phenomenon is merely an observed change in consciousness. Psychology is concerned only with mental phenomena, with what appears in consciousness, or with the changes in modes of consciousness. It has nothing to do with the nature of ulterior realities apart from consciousness, this being the province of metaphysics.

[2] To empirical psychology is opposed rational psychology. The distinction was first made by Wolf in his works entitled *Psychologia Empirica*, and

The mind is commonly thought of as a substance.[1] Matter is extended substance. Mind is conscious substance. Matter and mind are known to us only under two totally distinct series of phenomena or qualities. Matter manifests extension, solidity, divisibility, figure, motion, color, heat, etc. Mind manifests knowing, feeling, desiring, and willing. Now no quality can be conceived as existing apart, by itself, in absolute independence, *per se*. We necessarily think it the quality of some thing, and the thing in which the quality inheres, that which manifests the phenomenon, we call substance.[2]

Psychologia Rationalis, 1734. The latter is a branch of ontology, seeking to evolve *a priori* from the conception of spiritual being those principles that govern its manifestations. The method was in high repute until Kant assailed it, so successfully that it is now hardly recognized. Hence the simple title Psychology is usually given to the empirical science.

[1] The word *mind* is Anglo-Saxon, allied to Lat. *mens* and Grk. *μένος*, all probably from a common root preserved in the Sanscrit *mena*, to know. Soul is now synonymous with mind. Originally it signified only the principle of organic life (*anima*, *ψυχή*), which meaning may be traced in the N. T. trichotomy of body, soul, and spirit (*σῶμα*, *ψυχή*, *πνεῦμα*). — See 1 Thess. 5: 23. Cf. Plato, in the *Tímæus*, 34 d. sq., and 36 e. sq., ed. Steph.; also Aristotle, *Pol.* 1. In the O. T. soul (Heb. *nephesh*) generally means life. Spirit is generic, meaning either an immaterial part that is or has been connected with body, or else an immaterial being never so connected. The words *soul* and *spirit* have such strong theological associations that they are little used by psychologists.

It is remarkable that many words synonymous with mind signify, primarily, air in motion. *E.g.* *ψυχή*, *θυμός*, *πνεῦμα*, *spiritus*, each meaning wind or breath (see John 3: 8); *animus*, from *ἄνεμος*, wind; soul, Ger. *Seele*, from a Gothic root meaning to storm; ghost, Ger. *Geist*, ghastly, and gas are from a root meaning air; and the Heb. *nephesh*, soul, and *ruach*, spirit, are from a root which means to breathe. Cf. Gen. 2: 7: "breathed into his nostrils the breath of life, and man became a living soul."

[2] Substance (*sub* and *sto*, *stans*, that standing under) has in scholastic philosophy two distinguishable meanings: —

1st. *Ens per se subsistens*, *οὐσία*. It is conceived as apart from all qualities, as merely existing. Spinoza says: "*Per substantium intelligo id quod in se est, et per se concipitur; hoc est id cujus conceptus non indiget conceptu alterius rei a quo formari debeat.*" — *Ethics*, Def. 3.

2d. *Id quod substat accidentibus*, *ὑπόστασις*, *ὑποκείμενον*, *i.e.* the substratum in which qualities inhere, and which is their bond of union. Says Locke: "The idea which we have to which we give the name substance is nothing

Matter is the substance in which material or physical qualities inhere. Mind is the substance in which mental qualities inhere.[1] Since there is no common quality, the presence of any one is distinctive. Some qualities, however, are essential, others accidental. Extension, being an ever-present quality of matter, is considered essential, and taken as its defining quality. Consciousness, being characteristic of all mental phenomena, is considered essential, and taken as the defining quality of mind.[2]

Mind, then, is conscious substance, or better, is the conscious subject. But this logical definition *a priori* is of little advantage, the notion being so nearly ultimate. It is more satisfactory, since we know mind only in its phenomena, its conscious acts and affections, to explain the meaning of the word and the nature of the thing by stating them summarily, thus: Mind is that which knows and feels, desires and wills. This is sometimes called the definition *a posteriori*, but is rather a logical division of the mental powers.[3]

---

but the supposed but unknown support of those qualities we find existing, which we imagine cannot exist *sine re substante*, without something to support them. We call that support *substantia*."

"In the former meaning," says Hamilton, "substance is considered in contrast to and independent of its attributes; in the latter, as conjoined with these, and affording them the condition of existence." — *Meta.*, p. 105.

Herbert Spencer defines the substance of mind as "that which undergoes a modification producing a state of mind." He adds: "Consequently, if every state of mind is some modification of this substance of mind, there can be no state of mind in which the unmodified substance of mind is present." Hence unmodified substance of mind is unknowable. — *Principles of Psychology*, § 59.

[1] Whether these be two distinct substances or only one, a common, substance is a question which just now is disregarded. An examination of it will be found in a subsequent chapter on Mind and Matter.

[2] Descartes said: "Thought is the essence of spirit, extension the essence of matter. The one is known by consciousness, the other by perception." This is, at least, badly stated. Rather, this: "Consciousness is to mind what extension is to matter. Both are phenomena, but both are essential qualities; for we can neither conceive mind without consciousness, nor body without extension." — HAMILTON, *Meta.*, p. 109.

[3] Aristotle, in *De Anima*, ii. 1, gives an *a priori* definition of the soul,

It will be better, however, to exclude all consideration of substance, and use the word *mind* to stand merely for a complement of activities. Its substantial essence is a metaphysical theme that does not concern us at present, and would hinder rather than promote our strictly psychological inquiries.[1]

§ **51.** The most thoroughgoing distinction in psychology is the antithesis between the ego and the non-ego, between self and not-self. The ego is identical with my mind; the non-ego is any and everything else. All the material universe, all human beings, except myself, are non-ego. My body is mine, but is not I myself. It may be mutilated; I am still entire. Even the innermost organ of my brain is non-ego. The ego is I myself who stand in conscious opposition to the non-ego. I can conceive myself to exist apart from every organ, but I cannot conceive myself to exist apart from consciousness. This or that mode may not be necessary, but in some mode it is necessary that I be conscious in order to be. I, the ego, therefore am essentially a conscious being, and my true character is that of an intelligence served by organs.[2]

ψυχή, which has been much discussed. It is: "The soul is the first entelechy of a physical, potentially living and organic body." This is cited by Leibnitz as an illustrious example of obscurity. In ii. 2, Aristotle gives his *a posteriori* definition of ψυχή: "The soul is the principle by which we live and move, perceive (or feel, αἰσθάνομαι) and understand."

[1] Wundt says there are only two ways of conceiving the soul, either as a substance or as an act. To the first conception belong all theories according to which psychic facts are manifestations of a hypothetical substratum, a substance material or immaterial. According to the latter the psychic is pure actuality, immediately given in the manifestations of the mental life. Hume, Kant, Fichte, and Hegel are representatives of the theory of actuality. Psychology does not, like the physical sciences, attach itself to a metaphysical conception outside the fact of internal perception, or allow itself to be embarrassed by an hypothesis of substance, not needed in the explanation. Thus we have, despite its etymology, "psychology without a soul."

[2] Throughout this treatise, the pronouns I, mine, me, are used generically, meaning the ego as it is in every person, single in each, but common in character. They should be taken to mean the reader, rather than the writer.

There is a further distinction between the ego and its conscious modes. I distinguish myself from my thoughts. They are manifold and various; I, on the contrary, am one and the same. Their change is sometimes determined by me, sometimes by that different from me, and because of this changing I can distinguish myself from my thoughts. But I am a permanent being, an enduring subject, of whose existence these thoughts are only conscious modes or phenomena.[1]

§ **52.** Another thoroughgoing antithesis, very similar to but not strictly identical with the preceding, is that between subject and object. The subject (the mind, the ego) is that in which the phenomena of consciousness inhere.[2] The subjective is that which belongs to or proceeds from or directly relates to the subject. The object is that about which the subject is conversant. The objective is that which belongs to or proceeds from or directly relates to an object.[3]

The subject knows; the object is known. They are essential correlatives; no subject, no object; no object, no subject. All consciousness involves a subject and an object, the one determined, the other determining. The subject is conscious only in being affected by an object; an object is known only as affecting the subject. The whole science of mind is little else than an exposition of these opposites in their mutual relations.[1]

---

[1] "Consciousness comes from the firmly founded relation of the mental modifications, a founding which implies a something relatively in repose, which transcends in force the simple modifications. This thing of relative repose is the ego." — KIRCHMANN.

"Was ist doch überhaupt das Ich? Warum sagen wir immer so leicht: mein Geist, meine Seele, als wenn noch ein andrer Regent höher über diesen Regierenden in uns stände." — TIECK.

[2] The word *subject* is pretty much the same as substance, but psychology has usurped it to itself, so that currently in philosophical writings the conscious subject and the subject (unqualified) mean the same thing and are equivalents of mind.

[3] This distinction between subject, *id in quo*, and object, *id circa quod*, corresponds pretty nearly with Aristotle's distinction between τὰ ὑμῖν, things in us, and τὰ φύσει, things in nature. See Hamilton in *Reid*, note B, § 1, 6, footnote (p. 806), for a discussion of the history and nature of the distinction.

When the object is immediate and a present non-ego, that is, something external to the mind and yet within the sphere of consciousness, it is called simply the object, in a specific sense. But while the subject is always the ego, the immediate object is not always a non-ego. Very often a present mental state itself is objectified, or becomes an object of cognition. For example, a mental image, as of the moon, being a mode of the mind itself, is in that respect subjective; as a thing known, it is objective, an object of knowledge. Although really identical with the ego, the mind distinguishes it as a mode from self. It projects, as it were, this subjective phenomenon from itself, objectifies it, and views it as a non-ego. Hence it is distinguished as a subjective object, or subject-object.

The mental image, the subject-object, immediately represents some remote object, as the moon itself. It is remote in the sense of being now beyond the sphere of consciousness, or not here and now present and consciously known. This remote object is something either real, as the moon, or at least logically possible, as a centaur. It is called by way of distinction, an objective object, or object-object.

In cognitive states the subjective is that pertaining to the mind as observant or reflective; the objective is that pertaining to the thing on which the mind's attention is fixed. But by its definition, the objective means not only what belongs to or proceeds from an object, but also what directly relates to it.

---

[1] Some illustrative examples may be helpful. The extended landscape before me is an object; my enjoyment of it is subjective. I hear a sweet-toned bell; the bell and its tones are objects or objective; the hearing and the sweetness are subjective. To be convinced is subjective; to convict is objective. Certainty, as a state of mind, is subjective; as a character of proof, it is objective. Benevolence is subjective; beneficence is objective. That suicide is a crime is an objective fact; that Cato thinks otherwise is a subjective fact. A code of morality that allows a man to fix his own standard of right and wrong is subjective; but the moral law is said to have objective authority, an authority belonging to itself, apart from the opinions of men.

Hence those modes of mind which are immediately conversant with an object, as perception, are called objective modes.

§ **53.** Power is the possibility of change. Possible mental changes, known from experience, are classified as powers of mind. Primarily we have two classes, the active powers or faculties, and the passive powers or capacities. A faculty is a power to change, a capacity is a power to be changed; the one is a power to impart, the other to receive. This distinction is of some value in marking relations, but it is not essential, any power being active or passive according to the relation in which it is viewed. An uncaused act of will is an exception, being absolutely active.

Potential or virtual existence is that which at some future time can be; actual existence is that which now is. Patti is a singer when silent, not *in actu*, but *in posse*, or virtually; she can sing. Power, faculty, capacity, disposition, habit, are expressions for potential or possible mental modes. Act, operation, energy, exercise, denote actual modes. Affection and passion denote a present suffering.[1]

It is a very simple inference from observing what the mind does, to conclude that it has a power or faculty of doing it. But of the power when not in exercise, as of the substantial mind itself, we are utterly unconscious. We are conscious only of mental action and of reaction in suffering. It would be better, therefore, if our psychological nomenclature were so constructed as to confine our attention to the actual phenomena of which we are conscious, and we should endeavor to represent the facts as actual rather than potential.

---

[1] *Facultas* is the same as *facilitas*, from *facilis*, *facere*, and means ability to do. "*Facultates sunt, aut quibus facilius fit, aut sine quibus aliquid confici non potest.*" — CICERO, *Invent.*, ii. 40. Faculties and capacities are natural powers; disposition is a natural tendency. "Habit, ἕξις, is discriminated from disposition, διάθεσις, in this, that the latter is easily movable, the former of longer duration and more difficult to be moved." — ARISTOTLE, *Catagoriæ*, viii. Habit is the effect of repetition or custom. "For use almost can change the stamp of nature." — *Hamlet*. Its law may be stated thus: Our powers acquire strength, facility, and a permanent tendency by repetition of the same exercise.

CHAPTER II.

GENERALITY OF CONSCIOUSNESS.

§ 54. The primary and fundamental truth of psychology, that indeed from which all other truths arise, is the simple judgment, I am conscious. This proposition is incapable of proof, and needs none, for it is evidently true on the slightest self-inspection. It is requisite, however, to know what is meant by the concrete term conscious, and its abstract form consciousness.[1]

The complete generality of consciousness is the most important point to be noted. Having examined the various mental modes and abstracted their common quality, we call that consciousness. Every mental state, then, is a conscious state, or consciousness is the name of a quality characteristic of every mental state. As matter in all of its modes is extended, so mind in all of its modes is conscious.[2]

Actual consciousness is always concrete in some particular state of mind, as perceiving, or remembering, or thinking, or feeling. Each of these is a mode of consciousness, and there is no unmodified consciousness. Its abstract, comprehensive, generic relation is merely logical.

---

[1] Consciousness, *conscientia*, joint knowledge, from *con*, together, and *scire*, to know. Etymologically the word is the same with conscience; but while the latter is narrowed in usage to an ethical sense, the former is greatly widened in meaning, and must not be bound by its etymology. The ancient Greeks had no term for consciousness. The Greek Platonists and Aristotelians of the Christian era adopted the term *συναίσθησις*, which properly denotes the self-recognition of sense and feeling, and extended it to mean consciousness in general. Tertullian (A.D. 160–220) was the first to use *conscientia* in its psychological sense, but prior to Descartes it only occasionally occurs.

[2] Consciousness is mental life. "It is," says Cousin, "the interior light which illuminates everything that takes place in the soul; it is the accompaniment of all our faculties, and is, so to speak, their echo." — *Hist. of Mod. Phil.*, t. i, p. 247. It would be more accurate to say that whatever takes place in the soul is self-luminous; that consciousness does not attend, but permeates and informs all our faculties, and is, not their echo, but their voice.

Because of its complete generality, consciousness cannot be logically defined. There is no higher genus to which it can be referred. It is the *summum genus* of the mental series. We must be content, therefore, to have it merely indicated; *e.g.* when one is falling asleep, he is losing consciousness, etc.

§ **55.** Since we cannot refer consciousness to any higher notion, let us look down its logical series, consider its content, and thus render the notion distinct. The modes of consciousness are knowing and feeling, desiring and willing.

When I am knowing a thing I know that I am knowing it, or more properly, I am conscious of knowing it, or am consciously knowing it. But these phrases convey the impression that the knowing a thing, and the consciousness of knowing it, are distinguishable facts, which is not true. Also they waste words; for knowledge is merely and in itself a mode of consciousness, and in saying simply I know, I say that I am conscious. So also of feeling. Desiring and willing also are severally and essentially conscious activities.[1]

I may, however, accurately say I know that I feel, or that I desire, or will. But when this is strictly correct, the feeling, the desiring, or the willing has been objectified, has become a subject-object of cognition. This is not feeling, or desiring, or willing, but knowing. It is self-perception, a mode of cognition. The state is commonly and fairly expressed thus: I am conscious of feeling, etc. Hence many have been led to regard consciousness in general as a kind or mode of knowledge, the knowledge of self, as distinguished from the knowledge of an external object. Others, enlarging the view, hold consciousness to be the immediate knowledge of any object. But both these subordinate consciousness to knowledge, define it, and so deny to it the complete generality and supremacy that belongs to its nature.[1]

---

[1] Said the schoolmen: "*Non sentimus, nisi sentiamus nos sentire; non intelligimus, nisi intelligamus nos intelligere.*" But Aristotle had said: οὐκ ἔστιν αἴσθησις αἰσθήσεως.

Does the reality justify and require the more extended meaning of the term consciousness? Is each of the several activities in itself a conscious activity? Desires and volitions are not commonly considered as in themselves conscious activities, but that they are so is evident; for, when cognition and feeling are constant, the intensity of consciousness varies with the intensity of desire, or of volition.

---

[1] Nearly all writers on psychology offer a definition of consciousness. Stewart says: "It is the immediate knowledge which the mind has of its sensations and thoughts, and, in general, of all its present operations." This makes it a special faculty cognizant of self, which, indeed, was the doctrine of Stewart, and of Reid, Royer-Collard, and Adolphe Garnier. Hamilton on one page renounces any attempt to define it, and on the next says: "It is the recognition by the mind or ego of its acts and affections." — *Meta.*, pp. 132, 133. This is the mere *conscia sibi*. So Porter, *Hum. Intel.*, §§ 67, 75. Elsewhere Hamilton has: "Consciousness and immediate knowledge are terms mutually convertible; and if there be an immediate knowledge of things external, there is consequently the consciousness of an outer world." — *Discussions*, p. 57. This is better. But still better: "Consciousness is the fundamental form, the generic condition of all the modes of mental activity." — *Id.*, p. 54. Cf. *Meta.*, p. 126. Says Mill: "A feeling and a state of consciousness are equivalent expressions. Feeling is a genus, of which sensation, emotion, thought, and volition are subordinate species." — *Logic*, bk. i, ch. 1, §§ 3, 5. The extent here given to consciousness is just; but not that given to feeling. They should not be identified.

Wundt's view is not unlike that taken in the text. He holds that perception, representation, idea, feeling, volition, form a continuity called consciousness, of which only tautological definitions can be formulated. Its fundamental characteristic, given in experience, is unity; its condition, that mental facts be united and co-ordinated according to law. The physiological basis of the unity of consciousness is the continuity of the nervous system, and this excludes the possibility of diverse kinds of consciousness. Considered in its psychological aspect, consciousness is a unification, an activity that essentially unites and combines all mental phenomena as their common characteristic.

CHAPTER III.

CONDITIONS OF CONSCIOUSNESS.

§ **56.** The constitution of mind and brain being given as a primary condition, we may discover still two other conditions of consciousness, the first a condition of its existence, the second of its continuance.[1]

Opposition conditions the existence of consciousness. Primarily an opposition between the ego and a non-ego is requisite.[2] This non-ego must be not merely different from the ego, but also in direct opposition to it; it must through some channel of sense enter in upon and forcibly impress the ego, otherwise consciousness can never be. The first awakening, the first moment of consciousness is due doubtless to the impression of a non-ego through the tactile or muscular sense. Thereafter throughout life our various senses are almost constantly in exercise. Their objects are continually assailing the ego, and by virtue of such opposition there is consciousness.

Moreover, opposition between coexisting states of mind excites consciousness. Opposition occurs between sense-perceptions, memories, imaginings, and thoughts, between feelings of pleasure and pain, between conflicting desires, between the alternatives of choice, between an effort of the will and the resistance it encounters. Thus within each of the departments of mind, as well as by their contrasts with each other, the condition is fulfilled, and all are self-luminous with consciousness.

---

[1] A condition (*conditio sine qua non*) is something that must be in order that something else may be.

[2] The contrast between existence and non-existence is insufficient, for I cannot be conscious of the non-existent. The non-ego opposed to self, despite the negative form of the word, must be a positively existing thing.

§ **57.** Change conditions the continuance of consciousness. We have spoken of coexisting states; we are now to speak of successive states.

It is a constitutional fact that consciousness awakened in any one mode does not long continue. It directly begins to subside, and in most cases subsides rapidly. The tactile impression, for example, must be continually renewed in order to be maintained. And this is true in all departments of mind. An unvarying impression soon ceases to affect us, and consciousness of it soon sinks to zero. But, on the other hand, changes of impression maintain full consciousness, and rapid changes excite intense consciousness. For example, the irregularity of motion in a stage-coach, and the clangor of a bell.

§ **58.** The condition change is subordinate to opposition, for change is only the introduction of some new opposition, bringing about successive states unlike, and therefore opposed to each other. Hence we may comprise the two under a single formula, the Law of Relativity: Every mode of consciousness subsists by virtue of an opposition. This is a primary law of mind. In respect of experience, it is universal. Every experience is twofold. All feeling, all knowing, is double. The doctrine that contraries are congenital, that they are produced together and necessarily coexist, is illustrated by the multitude of correlative terms in every language, as straight and crooked, knowledge and ignorance. Every affirmation is, therefore, also a negation, and the knowledge of the absolute is impossible.[1]

---

[1] *Omnis affirmatio est negatio.*—SPINOSA. On the law, with many illustrations, see Bain, *Mind and Body*, ch. 4; and *Senses and Intellect*, p. 321. The absolute is that which has no relation.

§ **59**. In the awakening of any mode of consciousness, and in each subsequent modification, we experience a shock of difference. Both the opposition in coexisting states and the change in successive states are attended by this feeling, itself the beginning or the revival of the mode of consciousness. Hence the most elementary, the most fundamental movement of mind implies a discrimination, a comparison, a contrast, and without this neither the most elaborate nor the most refined and transient mood is possible. I could not know even my own existence did not some other existence press in upon me, and in the shock of difference make me conscious that I am.

By a familiar logical law no two things are absolutely different, they must in some respect be similar; nor are there any two things absolutely similar, they must in some respect be different. A consciousness of the difference implies a consciousness of the similarity; for by the law of relativity itself there can be no consciousness of the one except by virtue of an opposed consciousness of the other. They are psychological correlatives.[1] All knowledge, then, resolves ultimately into a consciousness of similarity in the midst of contrariety. A definition, for example, is a perfected expression of knowledge, and to define a thing is to state its agreement with some things (*genus*), and its disagreement with others (*differentia*).

---

[1] In *Nic. Eth.*, vi, 1, Aristotle adopts the principle of similarity as the basis of all knowledge.

CHAPTER IV.

LIMITS OF CONSCIOUSNESS.

§ **60.** Consciousness is subject to limitations. First, it is only of the actual, not of the potential (§ 53). I know the alphabet, I can say it. This is potential knowledge, but not actual, not conscious knowledge, the thing not being just now present in consciousness. I can suffer pain, but just now am conscious of none. Conscious pain must be actual. I am not at all conscious of any of my powers, except when in actual exercise. I may be conscious of a belief in my power to do this or that, but this confidence is not a consciousness of the ability, of the faculty itself.

§ **61.** Secondly, consciousness is only of the present. I cannot be conscious of the past, for it has ceased to be, or of the future, for as yet it is not. I cannot be conscious of what does not exist. Nor can I be conscious of what is absent, for virtually it is non-existent. I am conscious only of what is present in time and space, of what is now and here.

Hence what is consciously known is immediately and not mediately known, for that which is now and here does not need, does not admit, a medium, but is within the sphere of consciousness. Memory, for example, is a conscious act, a mode of consciousness. In it my present mental image of a past event is immediately, consciously known, for it is now and here within consciousness; but the past event itself is not consciously, but mediately, known through the mental image. A belief concerning a past event is often called a consciousness of it; for example, I am conscious of having done wrong. Obviously this is mere belief. I am conscious of the conviction, but not of the wrong-doing itself, for it has passed away.

§ **62.** A third limitation is that consciousness is only of the positive, not of the negative. Though I cannot be conscious of an absent thing, may I not be conscious of the absence of a thing? We say, I am conscious of silence, *i.e.* of the absence of sound, a pure negative. But this means only that I am not conscious of sound. A consciousness of ignorance means only an unconsciousness of knowledge. When a thing is absent from consciousness, we speak of its absence as if that were itself a thing. But it is a nothing, a void, a mere negation of the thing, and so there is merely unconsciousness of it. It were absurd to say, I am conscious of unconsciousness.

§ **63.** Certain other conceivable limitations are questioned. First. Are we conscious always? Since consciousness varies in intensity, does it not sometimes sink to zero?

Though we often speak of being wholly unconscious, it cannot be proved that there is ever such a state. We cannot observe directly the consciousness of another, much less an unconsciousness. When his external senses are completely torpid, and all communication thereby closed, how can we judge of his inner state? That we can find no external signs of consciousness does not prove unconsciousness.

Nor can one testify to his own unconsciousness. On arousing from complete torpor, I can say only that I remember nothing. That there seems no interval of time between before and after is merely no memory. Having no memory of consciousness does not prove unconsciousness.

The supposition that consciousness, in its varying intensity, may sometimes reach zero, is fairly balanced by the supposition that there may be a minimum for consciousness short of zero.

Therefore it cannot be said that there is ever a dreamless sleep. But the fact that the mind is often awake and dreaming while the senses are asleep is established; whereas that it sometimes sleeps along with them is unproved. Hence it is admissible to suppose that it is always awake, is always conscious. This justifies the definition of mind as conscious substance, and has been the common opinion of psychologists.[1]

§ **64.** Second. Are we conscious of more than one thing at a time? A slight consideration will show that we are usually conscious of many things simultaneously. Cognition, feeling, desire, and volition are distinct conscious activities, and all are constantly in exercise. My cognitive consciousness is never exclusively occupied with a single object. Many colors, many sounds, are simultaneously perceived. All the senses may be at once in action, and each on a variety of objects. Memory is never of one thing alone, but of many together, and the same is true of thoughts. Yet I perceive, remember, and think, all in the same instant.

Along with these cognitions are many sensations and emotions. Surprise, mirth, admiration, vexation, belief, are all compatible in consciousness. Even opposites may coexist. I may, while hoping for one thing, despair of another; while courageously meeting a danger, dread its possible consequences. There is often a conflict of emotions, and also of desires, not a duel, but a battle between hosts.

Whoever will examine any ordinary state of his mind must soon discover that he is conscious, not of one, nor of a few, but of a multitude of things at once. It should be remarked, however, that of this multitude very few are in clear consciousness; the great majority, though distinguishable, are indistinct, actually but only obscurely present.[1] It is the function of attention to bring an object already present in cognitive consciousness, though obscure and confused with others, out into clear and distinct consciousness. It operates according to the following law of limitation: The extension of our knowledge is in inverse ratio to its intension. That is to say, the more intently we consider an object, the fewer or less clear will be the other objects present in consciousness; and, on the other hand, the greater the number of objects to which our consciousness is simultaneously extended, the smaller is the intensity with which it is able to consider any one. When consciousness takes hold on and attends to one object in disregard of others, then the intensity of consciousness relatively to it is acquired at the expense of the vividness of the other objects, they becoming confused, obscure, and many perhaps passing entirely out of consciousness. Thus the intension limits the extension.

---

[1] Plato affirms the continuous energy of intellect. Aristotle is undecided. Cicero says: "*Nunquam animus agitatione et motu vacuus potest esse.*" — *De Div.* ii, 62. So also Augustine. Descartes made thought the very essence of mind, which therefore always thinks. Locke maintained the contrary. — *Essay*, bk. ii, ch. 1. Leibnitz opposed Locke's views, showing them inconclusive, but did not himself affirm. — *Nouv. Ess.*, lib. ii, ch. 1. Kant affirms. — *Anthropologie*, §§ 30, 36. Hamilton affirms with some hesitation. — *Meta.*, Lec. 17. Jouffroy affirms decidedly. — *Mélanges*, p. 290 sq.

§ **65**. Third. Are we conscious of all mental activities? Are there not certain mental activities of which we are unconscious?

Quite a number of facts in the history of mental experience are hardly explicable upon commonly admitted psychological principles. To explain them, an hypothesis of unconscious activities has been proposed. It supposes that simultaneously with our conscious activities there is a continuous series of activities out of consciousness, either of an intensity too low to excite a consciousness of them, or of a nature that excludes them from consciousness. It supposes that these latent or sub-conscious activities are important factors of conscious life, so that states of which we are conscious often originate in and are determined by activities of which we are unconscious. The hypothesis is not new, but has grown into new favor of late, and been expanded into a philosophy of the unconscious.[1]

---

[1] Says Leibnitz: "We must observe that we think of a great many things at once, but take heed only of those thoughts that are the more prominent." —*Nouv. Ess.*, lib. ii, ch. 1. Cardaillac recognized the importance to psychology of this doctrine. See his *Études Élément. de Philos.*, t. ii, ch. 5. The scholastics earnestly discussed the question: "*Possetne intellectus noster plura simul intelligere.*" The widely comprehensive area of consciousness is now generally admitted.

But sub-conscious activities can only be inferred to exist as causes of unexplained effects, those causes being otherwise utterly unknown. Now, logical law condemns an hypothesis of a cause which is not *vera causa* (a cause otherwise known to be), especially in the absence of proof that no other hypothesis can account for the facts. The present hypothesis fails on both points, and therefore stands condemned.[2]

Further investigation may perhaps refer the unexplained facts to known causes. This has been the case in several instances. More especially we observe that our acquired dexterities and habits which have been referred to unconscious mental action, are now fully explained physically by reflex action (§§ 36, 37). Moreover, the spontaneous ordering of thoughts may fairly be referred to unconscious cerebration (§ 41), which reference to another hypothetical cause, at least transfers the question to physiology. Again, the phenomena of spontaneous memory may fairly be referred to obscure consciousness (§ 64). When we are startled by some unsought remembrance, it is sufficiently explained as the result of interaction in obscure consciousness, and so does not require the hypothesis of unconscious activities.

---

[1] Leibnitz held the doctrine, but not clearly. Hamilton in one place says: "The rise or awakening of a mental modification is also the rise or awakening of consciousness."—*Meta.*, p. 242. Nevertheless, with characteristic inconsistency, he explicates Leibnitz's view, and founds his doctrine of memory upon it. His "demonstration" (*Meta.*, p. 243 sq.) begs the question by assuming that a cause too feeble to awaken consciousness (*e.g.* a ray of light) excites an activity, which therefore is out of consciousness. In another view it is *Fallacia divisionis*. Thus: Since the two halves of a *minimum visibile* taken together cause activity, therefore each taken separately causes activity. In his *Examination of Sir William Hamilton's Philosophy*, ch. 8, Mill severely criticises these views.

The hypothesis is still in vogue, and has been worked up by Hartmann into a *Philosophy of the Unconscious*. Among many others, Wundt seems to hold it. He says: "A full-grown science tends to unity. And observation conducts to unity in psychology. But the agent of this unity is outside of consciousness, which knows only the results done in the unknown laboratory beneath it. Suddenly a new thought springs into being. We know no whence it comes, for the conditions which have produced it have already disappeared. Ultimate analysis of psychical processes shows that the unconscious is the theatre of the most important mental phenomena. The conscious is always conditioned on the unconscious."—*Phys. Psyc.*, Int., p. 8. If, as is probable, by "the agent of this unity" he means the cortex of the brain, then we waive objection.

[2] See Mill's *Logic*, bk. iii, ch. 14, § 4.

When we observe that the variations of consciousness and activity are concomitant, intense consciousness attending high activity, and feeble consciousness attending low activity, in direct proportion throughout, we rightly conclude that, if consciousness and activity are to be regarded as distinct facts, then they are related either as cause and effect, or as the effects of a common cause. If the former, then the presumption is that the cessation of either is attended by the cessation of the other. If the latter, then the presumption is that a cause too feeble to arouse consciousness is too feeble to arouse activity. It follows that activity and consciousness come into existence together, and cease together, and there are no sub-conscious activities.

But why regard activity and consciousness as distinct facts? Is it not better to identify them? Let us say that all consciousness is mental activity, and that all mental activity is conscious activity. Thus it is opposed to physical activity, to unconscious material energy. In this view, the phrase "unconscious mental activities" is self-contradictory and absurd.

CHAPTER V.

FACTS OF CONSCIOUSNESS.

§ **66.** The conditions being fulfilled, what, within the limits indicated, is given by consciousness? What are facts of consciousness? Whatever I immediately know, whatever I feel, or desire, or will respecting myself, or respecting an object present to consciousness, is a fact of consciousness. My own existence in some distinct mode, or in other words, the existence of my present mental state, is a general fact of consciousness. That I see, that I remember, that in thinking I abstract and generalize, that I feel pain, that I desire happiness, and make efforts to attain it, these, as present mental modes, are special facts of consciousness. In perception, the existence of the object also is given as a fact; I not only consciously know, but also am conscious of the thing known. In short, whenever I can truly say, I am conscious of this or that, the fact, in so far, is a fact of consciousness.[1]

The phrase, I am conscious of this or that, is often loosely used of matter not truly within consciousness. Should one say, I am conscious of the warmth of the sunshine, we may grant him conscious of warmth, but that it is of the sunshine is an inference, and is not given or affirmed by consciousness. To reach a sound basis for our speculations, we must analyze the mental content, and abstracting from all derived matter, make clear the fact or facts of consciousness.

---

[1] "Whenever, in our analysis of the intellectual phenomena, we arrive at an element which we cannot reduce to a generalization from experience, but which lies at the root of all experience, and which we cannot, therefore, resolve into any higher principle, this we properly call a fact of consciousness." — HAMILTON, *Meta.*, p. 187.

§ **67.** A fact of consciousness, since it lies at the beginning of a mental combination, is primary; being incapable of analysis into constituent facts, it is simple; being in itself not susceptible of explanation, it is ultimate; and being merely given as an existing distinct fact, it is original and not derived.[1] Moreover, since the data of consciousness constitute the ground of proof of all other facts, they themselves are incapable of proof. But they do not need any. They have the light of truth in themselves. They are self-evident. No appeal can weaken or strengthen them. They are firmly established by their self-evidence, and by that alone.[2]

§ **68.** A fact of consciousness is merely given, but it is, as it were, forcibly given. It cannot be refused, its self-evidence cannot be disregarded, it must be accepted. In my consciousness that a thing exists, it is implied that I am constrained to accept this existence as real. For example, I hear a loud continuous sound, let us say a locomotive whistle. Of the sound, I am truly conscious. I may question its direction, its cause, and many other things respecting it, but its existence and my sense-perception of it, I cannot doubt for an instant. I cannot contradict this affirmation of consciousness. The acceptance of it is enforced upon me; and this is implied in saying that I am conscious of the sound.

This constraint attends consciousness only. The existence of a thing not within consciousness is not assertive, but problematical. How can I affirm it to be? I may believe very strongly that it is, as I believe the sun to be in the sky. I may accumulate logical proof. I may remember that it was within consciousness a moment ago. But now that it is not within consciousness, it may possibly or conceivably have ceased to be. Its existence, not being a fact of consciousness, is questionable.

---

[1] Consciousness merely reveals that it is, not how or why it is. For if the how or why were given, then it would be a derived or secondary, and not an original and primary datum. An inference as to its exciting cause or occasion is a rational but not a conscious explanation.

It is simple as a fact, is the last fact attainable by analysis. We shall hereafter find that every fact of consciousness is capable of resolution into essential elements, empirical and pure. But since these elements can have no separate existence in consciousness except as mere logical abstractions, they are not properly facts of consciousness, and so we refuse them that title.

[2] Each one must discern the facts for himself in the depths of his own consciousness. We can only help him to find them. The process of disclosing them may involve proof; but once disclosed, no proof can be offered in support of them.

§ **69**. The consciousness of reality involves a feeling of certainty. When I am conscious of the existence of a thing I feel certain of it. The certainty is pure, strict, positive, absolute. In the consciousness that I am, for instance, there is, together with the cognition of my existence, a certainty of the fact, a faith in it, that has no limit. Indeed, to profess a doubt of a fact of consciousness is the highest form of self-contradiction. Should one say, I doubt my own existence, we ask him, who doubts? There can be no delusion or illusion in what is given by consciousness. Its facts stand high above the reach of skepticism.[1]

It is very important to discriminate clearly the facts of consciousness from other facts. Their strict certainty may serve as a criterion. If it be possible in any manner or measure to doubt a fact without self-contradiction, then it falls short of certainty, and is not immediately, consciously, given, but is inferred, mediate, and represented. But if even the form of doubt be impossible, then the feeling reaches strict certainty, the fact is a fact of consciousness, is immediately, consciously given, is an intuition, a presentation.

One limitation is needful. A demonstration, proceeding logically from intuitive principles, carries their certainty along with it, yet its result is not a fact of consciousness; for it is not original, but derived. Hence the criterion reads thus: A fact of consciousness is certain and original.

---

[1] Says Leibnitz: "There may be intelligible reason for error in our mediate and external perceptions; but if our immediate, internal experience could possibly deceive us, there could no longer be for us any truth of fact (*vérité de fait*), nay, nor any truth of reason (*vérité de raison*)." — *Nouv. Ess.*, lib. ii, ch. 27, § 13. The untenable notion that possibly my conciousness may in some respect deceive me, is noticed in a subsequent chapter.

§ **70**. The facts of consciousness constitute the subject-matter of psychology. Having ascertained them, and accepted them without retrenchment, distortion, or addition, we proceed to generalize and classify them, and to formulate accordingly the ultimate laws of mind. When this is thoroughly done, we have a true science of mind.[1]

But their importance is more manifest when we consider that they alone are given to man to know; any further truth he must win by thinking on and from them. They alone, with what may be strictly demonstrated from them, are certain; all other truth is, in a higher or lower degree, merely probable. They are the ultimate ground, not only of all the sciences, but of all knowledge whatsoever. Their study, then, is of the highest dignity. We are searching the original and immovable grounds of all truth, of all faith. Science in its perfection is knowledge of myself, of the world, and of God. This is its beginning, its mean, and its end. The great problem is: Given self, to find God.

---

[1] Hamilton says: "Psychology is only a developed consciousness; that is, a scientific evolution of the facts of which consciousness is at once the guarantee and revelation, a systematic evolution of the contents of consciousness through the instrumentality of consciousness." — *Discussions*, p. 91.

J. S. Mill says: "All theories of the human mind profess to be interpretations of consciousness; the conclusions of all of them are supposed to rest on that ultimate evidence, either immediately or remotely. What consciousness directly reveals, together with what can be legitimately inferred from its revelations, composes, by universal admission, all that we know of the mind, or indeed of any other thing. When we know what any philosopher considers to be revealed in consciousness, we have a key to the entire character of his metaphysical system." — *Ex. of Hamilton's Philos.*, ch. 8.

CHAPTER VI.

MODES OF CONSCIOUSNESS.

§ **71.** Consciousness is the universal and fundamental phenomenon of mind, all whose modes are conscious modes. These modes are first divided into those that are modes of consciousness and nothing more, and those that are consciousness and something more. This something more is an endeavor, and hence the modes differentiated by it are called conations.[1] In modes that are consciousness merely, we are knowing and feeling; in conation we are consciously wanting and doing. This indicates a subdivision into subjective and objective modes. The objective mode of consciousness is cognition or knowledge; its subjective mode is feeling or sensibility. The subjective mode of conation is desire; its objective mode is volition. These generic relations are conveniently exhibited in the following:—

SCHEME OF THE GENERIC POWERS.

$$\text{Subjective.}\left\{\begin{array}{c} \overbrace{\text{Feeling.}\qquad\qquad\text{Cognition.}}^{\text{Consciousness.}} \\ \underbrace{\text{Desire.}\qquad\qquad\text{Volition.}}_{\text{Conation.}} \end{array}\right\}\text{Objective.}$$

Consciousness, in its most general sense, we have called the fundamental phenomenon. Consciousness in the narrower sense and conation may be called the primary powers.

---

[1] Conation (*conari*, *conatus*) means an effort, a nisus, a striving, an endeavor, and must be taken here to include the impulse and the determination or choice that gives direction to the effort.

Cognition and feeling, desire and volition, we shall call the generic powers; their subdivisions, the specific powers.[1]

Cognition and feeling cannot exist apart, nor, if taken strictly, can desire and volition. Moreover, conations are conditioned on the modes of consciousness, that is, without a present cognition and feeling, a conation cannot be. Hence the subjacent position of conation in the scheme.[2]

§ **72.** Cognition is consciousness of an object. To cognize is to know. Obviously we cannot know without knowing something, and that something is the object. The specific powers of cognition are determined by specific differences in the objects known. Knowledge is accordingly of two kinds, immediate or intuitive or presentative, and mediate or representative.

The immediate cognition of a non-ego or object proper, is *perception;* the immediate cognition of a subject-object is *self-perception.* These are specific presentative powers. They are both empirical intuitions. But actual cognition involves also a pure or non-empirical element, not cognized by sense, but by intellect, and this immediate knowledge is attributed

[1] The Peripatetic division is into the gnostic and oretic powers, *facultates cognoscendi et appetendi,* which survives in the speculative and active powers, or the understanding and will. It confuses desire and will, and omits feeling. Kant (*Critique of Judgment*) made feeling co-ordinate, thus: thought, feeling, striving, *Denk, Gefühl, Bestrebungsvermögen,* the latter including desire and will. This trichotomy, opposed in Germany but adopted in France, prevails in England and with us under the modified form: intellect, sensibilities (including desire), and will. Hamilton followed Kant, thus: cognition, feeling, conation. We have adopted a dichotomous division and subdivision as more strictly logical, and more in accord with the natural relations and mutual dependence of the phenomena.

[2] It may be permitted to note that this distribution is most ancient. "When the woman saw that the tree was good for food [*cognition, a perception and a judgment*], and that it was pleasant to the eyes [*feeling, a sensation and a sentiment*], and a tree to be desired to make one wise [*desire or velleity, with final cause*], she took thereof and did eat [*volition, including choice, intention, and effort with fruition*]." — Gen. 3 : 6.

to a third special presentative faculty called *pure intuition* or *reason*.

A remote object, one beyond the sphere of consciousness, can be known only mediately, that is, through some representative. The specific powers thus cognizing a remote object, an object-object, are called the representative powers, and their exercise, representation. They are *memory*, *imagination*, and *thought*.

§ **73.** Feeling or sensibility, in the most general view, is consciousness of self, of the subject. In every state of consciousness there is essentially an objective and a subjective element; there is both a consciousness of an object as distinguished from self, a cognition, and a consciousness of self as distinguished from an object, a feeling. These are psychological correlatives, existing only as they coexist; they condition and complement each other; they are the poles of consciousness. Hence, as cognitions are modes of objective consciousness, so feelings are modes of subjective consciousness; and consciousness is distributed as the cognitive consciousness and the sensitive consciousness.[1] Relatively to each other, the feelings fall into two classes, states of pleasure and pain. Relatively to the coexistent cognitions, there are three classes, — *sensation*, correlative to perception, *emotion* and *sentiment*, correlative to intellect.

§ **74.** Desire is the subjective element in conation, correlative to volition, the objective element. These complement and condition each other. As feeling has the modes pleasure and pain, so desire has the similar modes, desire proper and aversion. In general we have a desire for what gives pleasure, and an aversion for what gives pain. Desires are also divided into the physical, as the *appetites*, which correspond to sensations, and the psychical, as the *affections*, which correspond to sentiments.

---

[1] A fuller justification of this view will be given when we come to treat specifically of the feelings, Part IV. The essential and important distinction between feeling and desire, so commonly disregarded, will also be subsequently treated, Part V.

§ **75.** Volition or will, the objective mode of conation, has for its direct, immediate object an action. There are at least two elements: first, *choice*, or the preference given to one action over another; and, second, the *effort* to perform that action. The immediate issue of choice is intention; the immediate issue of effort is attention. The latter determines both mental and muscular action.

§ **76.** The foregoing analysis of the mental powers, in their co-ordination and subordination, gives rise to the following: —

SCHEME OF THE SPECIFIC POWERS.

- I. Consciousness.
  - 1. Objective consciousness, or Cognition.
    - A. Presentation, or Intuition.
      - (1) Perception. } Sense.
      - (2) Self-perception.
      - (3) Pure Intuition.
    - B. Representation.
      - (4) Memory. } Intellect.
      - (5) Imagination.
      - (6) Thought.
  - 2. Subjective consciousness, or Feeling.
      - (1) Sensation.
      - (2) Emotion.
      - (3) Sentiment.
- II. Conation.
  - 1. Subjective conation, or Desire.
      - (1) Physical.
      - (2) Psychical.
  - 2. Objective conation, or Volition.
      - (1) Choice.
      - (2) Effort.

§ **77.** A mind is a unit. In the various divisions of its powers we are apt to see corresponding parts of mind; in its various acts, various actors; in its various functions, various organs. But the mind, unlike the body, has no parts, has no organs. It is conscious of differences in its modes of activity, and these it distinguishes by names, and classifies. But the absolute one that knows is the same that feels, is the same that strives. So one and the same particle of matter attracts all others, elects some, emits light and heat, and exerts and is subject to electrical influences. A particle of matter may fairly be defined as an origin of forces. These forces are manifest in their effects, in objective phenomena. Perhaps physical force is one, and the variety in phenomena due to the various conditions under which it acts. It may help our conception of the unity of mind to consider that in like manner the conscious subject is merely a source of powers manifest in their effects, in subjective phenomena, and that these powers are modifications of one, of consciousness.

§ **78.** It is important to observe also that the generic powers of mind are always simultaneously in exercise. Cognition, feeling, desire, and will may be discerned in every actual state of this unit. Each state is a single instantaneous activity capable of only a logical resolution into conceivable components which never in any case exist singly and apart. Successive states exhibit a varying predominance of one element over another, and but for this the analysis would perhaps be impracticable. Moreover, the specific powers likewise act simultaneously, yet with varying intensity. At one and the same instant the conscious subject may be perceiving, remembering, imagining, thinking, experiencing sensations and emotions, desiring, choosing, striving. This should not tax our credulity more than the familiar fact that a single particle of matter constantly and simultaneously exerts a great variety of widely distinct physical forces.

PART SECOND.

IMMEDIATE KNOWLEDGE.

CHAPTER I.

COGNITION.

§ **79.** A consideration of cognition in its general aspect is prerequisite to the specific treatment of immediate knowledge.

A state of consciousness contemplated on its objective side, that is, as related to an object, is called a cognition. Cognition is consciousness of an object. This is knowledge. To cognize is to know.[1]

All forms of cognition are merely modes of the objective consciousness. We cannot specifically discriminate perception, or memory, or imagination, or thought, from knowing, for these are only modes of knowing. Every act of intelligence is thus a modified consciousness, and the cognitive consciousness has no existence whatever except in one or another of these special modes.[2] The mode which it shall assume is determined by the object known. If the object be present now and here, within the sphere of consciousness, and therefore immediately known, then we have a presentation, an intuition or immediate knowledge. If the object be remote in time or space, beyond the sphere of consciousness, and therefore known only through some medium, then we have a representation or mediate knowledge. Specifically, a present color, sound, or odor determines the mode to be perception; a representation of some past experience, memory; and so on. The modes thus determined are presently to be discussed.

---

[1] "Cognition, Lat. *cognitio*, a finding out; *co-* (for *con*, which for *cum*, together) and *gnoscere*, to know." — Skeat. Cf. *γνῶσις*, from *γνῶναι*.

[2] For illustration: Goethe found every organic member of a plant to be a modified generic leaf. The fruit, the flower and its parts, the plant as a whole, are each metamorphosed leaves. And, indeed, the leaf proper is only a nearer approximation in form to the generic typical leaf. So each of the intellectual states is a modification of one generic form, which apart from these has only a logical existence.

§ **80.** It has already been pointed out that a state of consciousness is produced by a shock of difference, and that a cognition of difference involves discrimination and comparison (§ 59). This becomes quite evident when we consider that all knowledge is a relation between a subject knowing and an object known, as expressed in the general formula : I know it. Now it is impossible for this relation to subsist, unless there be a contrast, and the subject so constituted as to discriminate. For I know only in so far as I know something, and I know that something only in so far as I distinguish it from what it is not. This discrimination implies a comparison, and it follows that comparison occurs in every act of knowledge, even the simplest.[1]

Comparison implies analysis and synthesis. In so far as objects are found dissimilar they are set apart; this is analysis. In so far as they are found similar they are united; this is synthesis. Hence the issue of comparison is judgment, for judgment is the conscious act wherein one thing is affirmed or denied of another, a declaration of similarity or difference. Judging is commonly considered a compound or derivative operation, but here it appears that the simplest act of intelligence implies a judgment, and that so far from being a process only subsequent to the acquisition of knowledge, it is the very essence of every cognitive act.[1]

---

[1] The first experience, the first moment of consciousness, is doubtless a discovery of the existence of two things, ego and a non-ego, by virtue of their opposition, which implies comparison. And so throughout cognition. Our originally simple and our factitiously complex, our abstract and our generalized notions, all are acts and results of comparison in its various applications and degrees.

We should, however, distinguish between primary or psychological judgments and inferences, the latter being secondary and logical. A psychological judgment, such as, I am, is certain and original, and so a fact of consciousness. A logical judgment or inference, such as, I shall be, is uncertain and derived. The one cannot be proved, but is self-evident; to obtain the other a logical process is requisite, and so it is an inference. Psychological judgments are the condition and ground of all others; they are the foundation of knowledge.

§ **81.** Cognition is a condition of all other mental activities. I cannot feel unless there be some known object to determine in me the kind and degree of feeling. I cannot desire, unless there be some known object toward which my longing tends. I cannot choose, unless there be alternative objects of cognition desired. I cannot make a voluntary effort, unless I form prospectively an image of the action. Hence I am essentially an intelligent being. Since cognition conditions the other generic powers, it is proper to treat of it first.

§ **82.** Attention is an intensity of cognition. We have defined cognition to be consciousness of an object. We now define attention to be consciousness concentrated on an object; or a concentration of the cognitive consciousness. This intensified, concentrated consciousness is, of course, always in some special mode, in some special faculty of cognition, as perception, memory, thought.[2]

---

[1] In the psychology of Lotze and of Wundt, the act of comparison under the eye of attention, *i.e.* the discernment of the relation between objects, has received the title apperception, a term borrowed from Leibnitz. It has value as emphasizing an act common to all cognitive states, and thus unifying their exercise.

[2] The etymology of the word *attention* (*ad-tendere*, to stretch towards) indicates intensity, a cognate word. Cf. the words *lust*, *list*, *listen*, *listless*,

Some psychologists have treated attention as a special faculty. But attention is coextensive with the cognitive consciousness; for it requires a known object, and any object that can be known may, through its special faculty, become an object of attention. Cognition and attention cannot therefore be distinguished as differing in kind. The difference is merely one of degree.[1]

But may not consciousness be concentrated in the subject? Certainly there is an intense self-consciousness. All feelings vary in intensity, as also do desires. Yet, since there is no object, we never speak of them as attentive, but rather as passionate. Attention knows an object, and hence the limitation to cognition.

§ **83.** Attention operates according to the following Law of Limitation: The extension of cognition at any instant is in inverse ratio to its intension. That is to say, the more intently I consider an object, the fewer or less clear will be the other objects in consciousness; and, on the other hand, the greater the number of objects to which consciousness is simultaneously extended, the smaller is the intensity with which it is able to consider any one.[2] I am usually conscious of many things at once (§ 64). Now when consciousness is concentrated on some one of these, to the disregard of others,

---

from the Anglo-Saxon *lustan*, to incline or lean towards. Their secondary meaning was suggested, possibly, by the natural attitude of the body corresponding to the state of mind.

[1] In recent psychology as well as in the earlier, there is a strong disposition to treat attention as a special and dominant faculty. See Ribot, *Studies in Attention*. But, beside what is said above, this violates a fundamental law of philosophizing, called Occam's Law of Parcimony: "*Entia non sunt multiplicanda præter necessitatem.*" A plurality of principles is not to be assumed when the phenomena can be explained by one. "*Frustra fit per plura quod fieri potest per pauciora.*" See Hamilton, *Meta.*, p. 225, and p. 321; also in *Reid*, note A (p. 751, at foot); but especially Grote, *Aristotle*, vol. ii, p. 25, note. Logical absurdity is a violation of the Law of Contradiction. Philosophical absurdity is a violation of the Law of Parcimony.

[2] Thus the old adage: "*Pluribus intentus, minor est ad singula sensus.*" See Hamilton, *Meta.*, pp. 164, 171.

then the intensity relative to it is acquired at the expense of the vividness of the others. They become confused and obscure, and perhaps many pass entirely out of consciousness. Thus the intensity of present knowledge limits its extension.

When listening to an eloquent discourse an assembly will remain motionless; but no sooner is it ended than a movement of the whole audience shows that each one has become conscious of some discomfort which he seeks to relieve, and perhaps is startled to find himself suddenly in the presence of hundreds, when but the moment before he was alone with the speaker. Many a soldier wounded during the heat of battle has not discovered it until exhausted by loss of blood; and many a martyr has suffered at the stake with calm serenity, his attention being so engrossed with beatific visions that the flames had no power of torture.[1]

§ **84.** Attention to an external thing is observation; attention to an internal mental image of a thing is reflection.[2] The former relates to objects of sense; the latter, to subjective objects. Observation is only of a thing present; whereas reflection considers also something not now present, but represented by the mental image. Observation without reflection hardly does more than amass facts; reflection without observation needs material. As a habit of mind one or the other generally preponderates, so that men of science may fairly be divided into observers and thinkers; the former furnishing matter, the latter forging it into shape.

---

[1] Sir Walter Scott, while painfully ill, dictated almost the whole of Ivanhoe. When a dialogue of special interest was in progress, he would rise from his couch and walk to and fro with the greatest animation, unconscious of the pangs that a moment before and after extorted from him groans of agony.—LOCKHART, *Life of Scott*, ch. 44.

A skilful portrait-painter will depict the features of his subject clearly and distinctly, but will "sink" the drapery, the background, and other accessories, making them comparatively indistinct. This does not represent nature as it is, but as it appears; it corresponds to our state of consciousness when we intently observe the features of another person. The artist thus leads us to contemplate the features of the portrait, for that is the attitude in which the spectator finds most ease.

[2] Reid, as understood by Stewart, gives us this distinction, but in common usage it is not strictly observed.

§ **85**. Besides attention to a definite object there is an indefinite or expectant attention, having no particular, distinct object. Consciousness is, as it were, concentrated within itself, and thus intensified awaits a definite object, expected but as yet undetermined, on which it shall concentrate.

A teacher says to his pupils: Attend to what I am about to say. There is a pause, during which their minds are attentive; they are listening, their attention is arrested, but its object is as yet undetermined. Anxiety, vague foreboding, and anticipation in general, involve this state. Coleridge says: "In attention we may keep the mind passive, we submit it to an impression, we keep it steady in order to receive the stamp."[1]

§ **86**. An important distinction is between voluntary and involuntary attention; the one active, the other passive.

The latter occurs when some sudden or persistent presentation excites consciousness intensely, distracting it from other objects and concentrating it on this one, without the exercise of will. A startling noise, a flash of light, a continuous and acute pain, powerfully attract attention, as also a bright idea, or a striking thought. Likewise a strong desire, as hunger, curiosity, love, excites involuntary attention. A commanding effort of the will may transfer attention promptly to preferred objects, but for an instant at least the distraction is usually irresistible.[2]

---

[1] *Aids to Reflection*, vol. i, p. 4. This is called by Dr. Carpenter "expectant attention." — *Ment. Phys.*, ch. 3. A knock at the door excites it. Also the military command, "Attention company." Also the gavel.

[2] "L'esprit du plus grand homme du monde n'est pas si indépendent, qu'il ne soit sujet à être troublé par le moindre tintamarre qui se fait autour de lui. Il ne faut pas le bruit d'un canon pour empêcher ses pensées; il ne

Involuntary attention and distraction are correlatives, implying each other, the positive and negative aspects of the same state. In such attention the mind is attracted by an object; this is positive. In distraction, the mind is drawn away from other objects; this is negative.

§ **87.** Voluntary attention occurs when the ego, by an inherent, original, and constitutional power, chooses to concentrate consciousness, and does actually concentrate it, on a chosen object. This is intentional attention.[1] Its correlative is abstraction. These are the same exercises viewed in different relations, the positive and negative aspects of the same act. In attention the mind centres on an object; this is the positive view, the giving of mind to the thing. In abstraction the mind draws away from other objects; this is the negative view, the withholding of mind from those things. What we call absence of mind is abstraction, the mind having withdrawn from things to which we think it should be attending.[2]

§ **88.** Can I attend to more than one thing at a time? The question is concerning a fact of consciousness, and can be answered only by an appeal to consciousness.

---

faut que le bruit d'une girouette ou d'une poulie. Ne vous étonnez pas s'il ne raisonne pas bien à présent ; une mouche bourdonne à ses oreilles ; c'en est assez pour le rendre incapable de bon conseil. Si vous voulez qu'il puisse trouver la vérité, chassez cet animal qui tient sa raison en échec, et trouble cette puissante intelligence qui gouverne les villes et les royaumes." — PASCAL, *Pensées*, I, vi, 12.

A rustic cannot think amid the bustle of a city; but J. S. Mill tells us that he thought out the greater part of his System of Logic during his daily walks in the crowded and noisy streets of London, and that, so complete was his abstraction, he suffered no distraction.

[1] As attention is related to cognition, so is intention to volition. Intention is volition concentrated; it is will determined on an action. Both are objective. Flirting is attention without intention.

[2] It is preoccupation of mind. Inattention, absolute, probably never exists, the mind being always more or less attentive to something.

Consciousness of an object should be distinguished from attention to an object. I am always conscious of many things at once, and the effect of attention is to bring an object out from obscure into clear consciousness. Now can I select several of the objects, and attend to each separately and at once? I find on trial that I cannot. I can attend to a group of things, but not to them severally. A group is but one object. I can transfer my attention rapidly from one thing to another, but succession is not simultaneity. I find I can attend to only one thing at one time.[1]

If it were otherwise, then it might become possible for me to pursue two distinct trains of thought simultaneously. Who has ever done this?[2] I cannot attend even to two persons talking to me on different subjects at the same time. I can attend to either one at pleasure without being much disturbed by the other; I can, if versatile, rapidly alternate my attention, and thus, perhaps, catch the meaning of both; but if I try to listen to both strictly at once, I can understand neither. Indeed, if plural attention were possible, why should there be such a thing as distraction? But we are often so distracted by a call for double attention as to be incapable of any.[3]

---

[1] Hamilton *per contra*, *Meta.*, Lec. 13, 14. He offers a direct argument which is a bald petition. — See p. 165. He confuses consciousness of many objects, with attention, *e.g.*: "If mind can attend to, or be conscious of, only a single object at a time, how is comparison possible?" — p. 175. This is *ignoratio eleuchi*. President Porter follows Hamilton. — *Hum. Intellect*, § 180. Yet, with approbation, Hamilton quotes Jouffroy as saying: "It is established by experience that we cannot give our attention to two different objects at the same time." — p. 227.

[2] Gibbon says of the emperor Julian: "He possessed such flexibility of thought, and such firmness of attention, that he could employ his hand to write, his ear to listen, and his voice to dictate, and so pursue at once three several trains of ideas, without hesitation and without error." — *Decline and Fall*, ch. 22. Hardly historical.

[3] Plural attention is apparently supported by such cases as Napoleon I dictating to a dozen secretaries, and Paul Morphy blindfolded playing eight games of chess at once. But these are explained by alternating attention,

It is fairly asked: How, then, is comparison (§ 80) possible? The answer is easy. In order to compare, a relation must be discerned between two objects within consciousness. By virtue of this relation the two become one, for "the knowledge of relatives is one." The more intimate the relation, the more complete is the fusion in consciousness; but even a remote relation is sufficient so to unite them that they may become a single object of attention.[1]

§ **89**. It is the special function of the will to fix and hold attention. The great significance of this fact in human nature becomes apparent when we observe that (the control of muscular energy probably not being an exception) the will has no other power. Voluntary attention to this or that object is the sole but sufficient means of self-control. I have no other, and I need no other, means of repressing, arousing, directing, or combining my faculties, whether of cognition, feeling, or desire.

The command of one's faculties by the power of attention is more or less perfect in proportion to the natural strength of the will, which varies in individuals, and to the development of its energy under the Law of Habit, namely: Our powers acquire facility and strength by exercise. This development requires that hindrances be resolutely met and overcome, that distractions be persistently reversed until they

---

aided by powerful memory. Great versatility, the ready and rapid transfer of attention, often quite remarkable in women, startles us who are slow to follow by an appearance of plural attention. But how is it that a pianist can play two discordant tunes, one with each hand, while singing a third? Two at least are produced automatically, without attention (§ 37).

[1] *Contrariorum eadem est scientia*, said the scholastics. Mere juxtaposition is sufficient for unification, enabling us to group as one the most heterogeneous objects. The subject and predicate of a proposition are thought together only by virtue of the relation constituting them one proposition. Aristotle pronounces the act of judgment to be single and instantaneous. "In general, we may say, whenever by an act of attention mental data are unified into a related whole, this is an act of apperception." — BALDWIN, *Psychology*, p. 56. See § 80, note.

cease. To acquire this power of attention should be the primary purpose of all mental discipline; for by it alone can one cultivate and realize his natural gifts, by it alone can he rigorously train them, by it alone can he direct their exercise in the manner best suited to expand and elevate, and by it alone can he restrain them from all that would limit and debase. Moreover, the discovery of truth requires the labor of attention. "It is only the labor of attention," says Malebranche, "that has light for its reward. The attention of the intellect is the natural prayer by which we obtain the enlightenment of reason. Since the fall, the intellect can but feebly pray, the labor of attention fatigues and afflicts it. Indeed, this labor is at first great, and the recompense scanty; nevertheless, it is necessary; we must invoke reason to be enlightened; there is no other way of obtaining light and intelligence. Faith is a pure grace, but the understanding of truth is a grace that must be merited by labor; so that without this laborious attention, which is the force of intellect, we shall never be enabled to comprehend the grandeur of religion, the sanctity of morals, and the littleness of all that is not God."[1]

[1] Free quotation from *Traité de Morale*, I, v, 4; vi, 1. See Hamilton, *Meta.*, p. 177 sq. for excellent remarks on the value of attention, supported by many striking examples. Cf. Stewart, *Elements*, ch. i, p. 122 sq., and p. 352. The following, said of Cardinal Richelieu, illustrates several of the foregoing points: —

"Ce jour-là, il fut remarqué par ses serviteurs (c'étaint à peu près tous ceux qui l'approchaient) que, depuis son lever jusqu'à la nuit, il ne prit aucune nourriture, et tendit tellement toute l'application de son âme sur les événements nécessaires à conduire, qu'il triompha des douleurs de son corps, et sembla les avoir détruites à force de les oublier. C'était cette puissance d'attention et cette présence continuelle de l'esprit qui le haussaient presque jusqu'au génie. Il l'aurait atteint s'il ne lui eût manqué l'élévation native de l'âme et la sensibilité généreuse du cœur." — VIGNY, *Cinq-Mars*, p. 157.

CHAPTER II.

PRESENTATION.

§ **90.** So far of cognition in general. We are now to consider immediate knowledge or presentation specially.

Presentation is a mode of the cognitive consciousness. It is called presentation because its object is present to me here and now; or because the object is viewed as given or presented to consciousness. The definition of presentation is immediate knowledge; that is, knowledge wherein no medium lies between the subject knowing and the thing known. Expressed positively, this is direct knowledge.

Presentative knowledge being immediate or direct is also intuitive; the subject and object are, as it were, face to face.[1] Now intuition is of two kinds, empirical and pure. Empirical intuition is either of an external thing or non-ego known in perception, or of an internal subjective object known in self-perception. Pure intuition is of non-sensuous objects intellectually discerned. These special powers are to be discussed in their order.

§ **91.** In presentation, consciousness is primarily not actively exerted, but passively affected, does not act, but merely reacts, is merely receptive of the impression which the object makes upon it. A flash of light, or a sudden noise, is a presentative object making an impression on me, and this impression, of which I am passively conscious, is, in the first instant of cognition, a presentation.[2]

---

[1] Intuition, from *intueri*, to behold, to look directly upon, Ger. *Auschauung*. The term, says Duns Scotus, was probably suggested to the earlier scholastics by the Vulgate of 1 Cor. 13 : 12, "*facie ad faciem*."

[2] So, also, the mental image I now form of an absent object, as the moon,

A presentation is a psychological judgment (§ 80) affirming existence, and affording certainty of the actual, of the here and now existent. That is, the object is consciously known as real, or, in other words, its reality is given as a fact of consciousness.[1]

§ **92.** The logical opposite of presentation is representation. Representative knowledge is mediate knowledge or cognition, since therein the conscious subject knows through a medium some remote object beyond its sphere. In presentative or immediate knowledge, there are only two factors, a conscious subject and an object consciously known. In representation, there are three factors, a conscious subject, the medium or object representing, and the remote object represented. So far as the immediate object is considered in itself alone, the cognition is a presentation; as, I hear a sound. But when this object is considered with reference to some other beyond consciousness, the cognition is a representation; as, I hear a voice. If I think of Mt. Blanc, there is an image or idea of it formed by my mind of which, as a present object, I am conscious; this idea, as a medium, represents the real mountain, but of the mountain itself I am not conscious. Again, I am angry, and am subjectively self-conscious of this state. If, now, I contemplate it as a subject-object, this knowledge of it is merely presentative. If, afterward, the anger having ceased, I remember and reflect

---

considered in itself alone without regard to the remote object, is a subjective presentation.

[1] A presentation is always numerically single, an individual, undivided, though not necessarily indivisible. *E.g.* a chain, or one of its links; a sentence, a word, a letter; each of these is an individual.

Presence here and now, in both space and time, is requisite to a presentation of external sense, as the book before me; but time only to a presentation of internal sense, as my interest in it. But thoughts, as representative, are emancipated from both bonds. So Thomas Aquinas: "While sense can know existence only under the limits of space and time (*cognoscit esse sub hic et nunc*), the intellect apprehends it absolutely, or with reference to all time." — *Sum. Theol.*, i, 75, 6.

upon it, there is then an image of it present to my mind, through which I know the past anger. This image, itself a presentation, represents the past anger, and the total state is representative. The medium or object representing is consciously or immediately known in itself, and therefore, considered irrespectively of what it represents, is itself a presentative object. A representation, then, involves a presentation; it is a presentation, and something more.

§ **93.** The many objects usually present within the cognitive consciousness, with perhaps a single exception, are merely presentative. In the impression they make, the great majority are cognized more or less obscurely, only a few are clearly known; but in so far as each is known, it is known in itself, immediately, and without reference to anything else beyond. When attention is fixed on any one, it is thereby drawn into clear and distinct consciousness, and may become also representative. A state of attention seems requisite to a representation; and, since we can attend to but one object at a time (§ 88), it follows that, amid the many objects present in consciousness, only one can be representative. Also, let it be remarked, if the attention be involuntary, the total state is primarily passive; but if it be voluntary, then, relatively to the object of attention, consciousness is at once active and passive; passive in receiving the impression, active in giving attention to it.

§ **94.** Further illustration will perhaps be helpful here. A book is before me, and my hand rests upon it. I am conscious of the sensuous impression which the object makes on me. If no more than this, then there is a presentation only, a mere perception in the strict meaning of that term, an immediate cognition. But if my attention is turned to it, I recognize it as a book, I refer it to a class, and this is a representation, an apperception, a thought.

Words spoken to an absent-minded man are heard as sounds, but are not understood. Also he stares in the face of his friend without recognizing him. When the latter enforces his attention, the recognition takes place, and the remembered sounds are now perhaps understood. But he knows that the impressions did not just then begin, but his attention to the impressions now interpreted.

Suppose one born blind to receive sight, and to have as his first visual percept red light. This experience being quite new, he cannot at once refer the object to any class of things already known, he cannot give it a name, he cannot analyze it into parts or qualities, he did not will to produce it, he cannot at will modify it, it is given to him and he is passively receptive; he must cognize it, but does not recognize it. So far it is a presentation merely. But perhaps when he has reflected a moment he recognizes it as a percept of sense. This reference to a class is a thought, a representation.

Ordinarily the transition from the presentative to the representative state is almost instantaneous, quicker than lightning. For when a flash of lightning unexpectedly occurs, I first perceive an object suddenly presented, but before the flash has passed away, or before its impression on my retina has ceased, I recognize it, now as a visual object, a flash, next as out before me in space, then as a flash of lightning.

In the first glance at a new landscape, I have only an intuition of the scene, a confused knowledge of it as one whole, without a recognition or even a clear distinction of parts. This is mere presentation. But in an instant I recognize trees, buildings, streams, rocks, hills, etc., and apprehend their relations, or apperceive them, in respect of distance, magnitude, etc., and thus come to think out the landscape as a whole. This thought of the whole is far more complete knowledge than the intuition of the whole, which was all that sense gave us at the first momentary glance. In this example it is very evident that presentation furnishes the materials with which intellect builds.

CHAPTER III.

PERCEPTION.

§ **95.** Perception is the immediate knowledge of an external object. Being immediate, it has but two factors, a subject knowing and an object known. Since all modes of cognition are modes of objective consciousness, and since consciousness is always immediate, it follows that perception is consciousness of an external object. Accordingly, the object, though external, that is, a thing distinct from mind, is nevertheless within the sphere of consciousness. Being an object perceived, it is called a percept.

§ **96.** The physical organs of sense are closely associated in our thoughts with the exercise of perception; they are sometimes spoken of as physical media between the subject perceiving and the object perceived; and some authors have thought it right and sufficient to define perception as knowledge by means of the senses. We should, however, remember that our science is only a development of the facts of consciousness, that it originates in and proceeds from these, and that to consider aught else is to abandon its proper field. We are limited, then, to what consciousness gives in an act of perception.

Now, of the several outer organs of sense, the eye, the ear, etc., consciousness tells us nothing whatever. We are not at all conscious even of their existence, much less of their structure and functions. Observation and inference apprise us that they exist, and also that they are physical conditions of perception (§ 5). The investigation of their structure and functions belongs to anatomy and physiology, and with them psychology strictly has nothing to do.

Moreover, we have already found that the true percept lies not beyond, but on this side, so to speak, of the outer organ of sense (§ 21); so that the organ cannot, even in the freest view, be considered a medium, but only as an antecedent condition.

Therefore we must eliminate these organs entirely from our present considerations. I must retire within and ask: Of what am I conscious when perceiving? And this standpoint must be rigidly maintained if we would enjoy the certainties of consciousness.

§ **97.** Within the domain of consciousness we are still liable to confusion, and perception proper needs to be sharply discriminated from certain things which lie close to it; first from its correlative sensation.

The primary power, consciousness, was sub-divided into cognition and feeling (§ 71). These, though always coexistent, may be clearly distinguished. A cognition is objective, a feeling is wholly subjective. Now, perception is a special kind of cognition (§ 72), and sensation a special kind of feeling (§ 73). The consideration of the latter must be postponed to Part IV. We have here to do with perception only.[1]

But another distinction is needful. The definition given is of perception proper, that is, of immediate perception. There is another quite complex mode of cognition, of which perception proper is only a part, but which is always in common speech called perception simply, though involving much more. Since it is largely a representative state, we shall call it mediate perception.[1]

---

[1] "A conscious presentation," says Coleridge, "if it refer exclusively to the subject as a modification of its own state of being, is a sensation; the same, if it refer to an object, is a perception, which, when immediate and individual, is an intuition." — *Church and State*, p. 301. See also Hamilton, *Meta.*, p. 335, and *Reid*, note D*. The word *sensation* is still used by some scientists to denote sensitive apprehension, both in its subjective and in its objective relations, like the Greek *αἴσθησις*. It was limited first by the Cartesians, and thereafter in the Scottish school, to the subjective phase. We should not expect sensation and perception to be distinguished in common language, for the purposes of common life do not require it; but in psychology they should be discriminated as obverse and reverse. Neglect of this has caused, like the shield in the story, many a knightly tilt.

What, for example, in looking at a house, do I truly and really see? Certain colored figures; nothing more. These, and these only, constitute the object presented, the object immediately, intuitively perceived by sight. As a result of experience and observation, they have become also signs to me by or through which I judge a house to be there, and judge also of its details. The house is doubtless real, but is not the real object of direct perception. The vision of colored figure only is given by sight (§§ 17, 19). All else that I seem to see and say that I see is inferred, represented, and known in mediate perception. So also of the commonly supposed objects of the other senses. We must, therefore, eliminate from our present considerations all mediate, all represented, matter, and limit them to the immediate, presented percept.

§ **98**. What remains in perception when we disregard all that is mere sensation, and all that is mediate? In the exercise of each sense, I perceive immediately, or am conscious of, the positive existence of a phenomenon. I do not perceive substance, but a quality of substance. I do not perceive its cause, but know there must be a cause of the phenomenon. Altogether, I perceive the positively existing and caused quality of something that is not I. If I go one step beyond the presentative state, I know the percept to be an odor, or a sound, or a color, as the case may be. Nothing more than these simple percepts is immediately given. I do not perceive that they are qualities of something outside my own body; for the senses do not singly or together tell me that a body belongs to me. Nor do they primarily reveal to me the extension or existence in space of anything whatever.

---

[1] In the comparatively recent psychology of Lotze, of Wundt, and of their strict followers, this is called simply perception, and is classed as one of the apperceptive faculties (§ 88, note). Leibnitz, however, from whom comes the term apperception (§ 80, note), calls the cognitive exercise described above, mediate perception (§ 69, note). The psychologists referred to lose the important distinction between sensation and immediate perception, and commit the error of treating mediate perception as a special or simple faculty.

§ **99.** An important feature common to the several modes of perception is their passivity relatively to their objects.

In modes of mediate cognition, in remembering, in imagining, in thinking, I am consciously active, either spontaneously or voluntarily. With conscious energy, I form and contemplate representative ideas of remote objects. Each image thus presented by consciousness to consciousness is subject to consciousness; it may be dismissed or modified either in spontaneous action or at will. I myself am the author and master of these mental modes, they being the products, or, rather, the exercises of my own conscious activity determined directly by me.

In perception, the case is different. When my eyes and ears are open I receive impressions of light and sound without the slightest effort on my part. I may place myself in an attitude favorable to the impression, and thus increase its effect. I may pay little or no attention to it. I may remove entirely out of the way, as by shutting my eyes. But while within its reach, I have power to receive, that is, passive power, but no power to reject the impression. Also, I am powerless to change or modify it in kind, but only in degree. Its existence is wholly determined for me, not at all by me.

For example, while I am absorbed in study, my clock strikes. Is it true that I do not hear it? No; for if asked the time a few moments afterward, I remember having heard it. If a speaker's voice or topic is disagreeable, I may "turn a deaf ear," or give little heed to it, and so diminish the effect; but I cannot at will refuse to hear, and so be unconscious of the sound. Let us suppose I am standing alongside a steam engine, studying its mechanism, when suddenly the whistle blows. What can I do? Can I refuse to hear? I stop my ears with my fingers, but that only abates the horror. I can run away, but shall have to run very far. I can commit suicide, as perhaps it disposes me to do. Otherwise I hear. Can I continue my study? Not at all. The powerful overmastering sound comes upon me, dominating all my faculties, and they become helpless and useless under its power. The same, *mutatis mutandis*, is true of each of the six senses.

Perception, then, relatively to its objects, is an affection, not an action; a capacity, not a faculty. In it, the mind receives impressions without being able to reject or to modify them; it does not act, but is acted on; it does not affect, but is affected. In perception my state is merely receptive; I am strictly passive.

There is no such thing as absolute passivity. All things are at once acting and reacting, and the reaction, which is positive, is the passion. It is this positive reaction, this passive resistance, of which I am conscious when receiving a sensuous impression, and I am conscious that it is reaction, a passion, and not an action, that I am the patient, and not the agent. I am therein the subject of experience in the strictest sense, and perception is pre-eminently the power wherein I am subjected to experiences.[1]

---

[1] The verb *to experiment* always implies activity, while *to experience* is always used with reference to a passive, receptive state. Both words are from the same deponent verb *experiri*, to try or to be tried. We try an experiment (Ger. *Versuch*), we undergo an experience (Ger. *Erfahrung*). See § 60, note. The noun *trial* is either an action or a passion. Passivity seems to be a special characteristic of experience. Let us note also that a passive state is not a quiescent one. The former is positive, the latter merely negative.

CHAPTER IV.

EXTERNAL REALITY.

§ 100. The percept is external to mind, is a non-ego. This seems almost paradoxical. How can mind be conscious of that which is beyond it? The doctrine is not to be rejected because it is incomprehensible, for the primary data of consciousness, being the conditions under which all else is comprehended, are of course themselves incomprehensible. We can only know that they are, not how they are. To explain how they are would be to refer them to some higher principle; but there is none. If a clearly correct analysis ascertains that mind is conscious of something distinct from itself, there is an end of the matter; the fact is ultimate, and must be accepted.[1]

It is admitted by all philosophers and skeptics that I am conscious of the percept, for example, of an odor or a sound. This, therefore, may be taken for granted as undisputed and indisputable. It is the common conviction of men that the percept is a non-ego. This, certain philosophers pronounce a delusion, holding the percept to be merely an objectified mode of the ego itself. Of these, some theoretically deny the existence of a non-ego; others admit its existence, maintaining, however, that this is not immediately, but mediately known.

---

[1] "Herein," says Herbert Spencer, "is an all-sufficient warrant for the assertion of objective existence. Mysterious as seems the consciousness of something which is yet out of [*i.e.* distinct from] consciousness, the inquirer finds that he alleges the reality of this something in virtue of the ultimate law, he is obliged to think it. It is impossible by reasoning either to verify or to falsify this deliverance of consciousness." — *Principles of Psychology*, § 448.

Our view, on the contrary, is that in perception I am conscious of a non-ego; that is to say, I immediately know that the object is a non-ego. This is the doctrine of immediate perception.[1]

§ **101.** In a previous section (§ 99) it was shown that perception relatively to its object is strictly a passive power, contrasting in this respect with the representative faculties. What now is involved in this fact of consciousness, this complete and positive passivity of mind in perception? A patient implies an agent, and a consciousness of one correlative implies a consciousness of the other. My consciousness of the agent or object lies in my consciousness of its action on me; and herein I am conscious of its activity. Thus in perception, while consciously passive, I am conscious of an activity. Now, as I cannot be both active and passive myself, in one and the same relation, it is evident that this activity must be the activity of a non-ego; and, since I am conscious of this activity as a positive fact, I am therein conscious of, or perceive, a positive non-ego.[2]

---

[1] It is the chief characteristic of the Scottish school of philosophy, the school of Reid and Hamilton, in opposition to idealism, and under various forms of statement now widely prevalent in the philosophemes of Europe and of this country. It is held in the present treatise with important though not essential modifications, and supported on original grounds.

[2] We are well aware that Mill (*Logic*, bk. iii, ch. 5, § 4) teaches that the distinction between agent and patient is illusory, being merely verbal. But surely a distinction embedded in the very structure of all languages is founded on something more than mere expression. Surely there is some essential difference between I strike, and I am stricken. It is unquestionably true, as he says, that "in case of a sensation produced in our organs, the laws of our organization, and even those of our minds, are as directly operative in determining the effect produced, as the laws of the outward object." Still it remains that there is a real distinction between these antecedents, and not merely that one is taken arbitrarily as the theatre or "scene in which the effect takes place." The ground of the distinction seems to be in the relation to volition, which is essentially active. The antecedent which is more nearly related to will, or more directly traceable to it, is the agent. Or, that antecedent in which a will is forcibly dominated or unresistingly subject,

Another view. In my conscious reaction I am conscious the object as a cause or force irresistibly and irreversibly constraining me, oftentimes compelling my attention, and sometimes completely dominating all my faculties. I cannot expel it from my consciousness, within whose sphere it has appeared, exerting a mastery, and determining that peculiar state of consciousness we call perception. That in being thus forced, I am conscious of force, cannot be questioned. Such force in one case we call light, in another sound, in another odor, etc. We usually identify it with some external force, but contemplate it here only as adventitious energy, coming into the sphere of consciousness, and determining its state.[1]

I am conscious that my own mental energy, and this physical energy, experienced in perception, are entirely independent of each other in their origin, and wholly different in their operation. I have a positive, unmistakable consciousness that they are often in actual conflict, the one tending to produce a peculiar mental state, the other striving to counteract its influence; though indeed the conflict is one-sided; for I find no mode of direct resistance, and no present recourse save in flight.

This opposition and subjection mark consciously and clearly two distinct realities external to each other. Necessarily in my consciousness they are apprehended as two realities; I cannot possibly unite them in one conception. The one is consciously the property and manifestation of me myself. The other is consciously the property and manifes-

---

directly or remotely, is the patient. Where no relation to will is discoverable, the distinction becomes uncertain, and hence illusory, but not even then groundless.

Because of the doubt which Mill's view may excite as to the validity of the argument in the text above, founded on the distinction between action and passion in the antecedents, another form of the argument is presented, founded on the distinction between cause and effect, or antecedent and consequent.

[1] "La force proprement dite, c'est ce qui régit les actes, sans régler les volontés." — COMTE.

tation of something in direct opposition to me, the manifestation to consciousness of a positive non-ego.

Surely, then, it is a primary fact of consciousness, original and not inferred, certain and beyond the possibility of the least actual doubt, that the immediate object in perception is consciously not I.

§ **102.** There are those who hold that consciousness may, and probably does, deceive me in this matter. They distinguish between the fact that consciousness testifies to the existence of a non-ego, and the truth of its testimony. The former, they admit, cannot be doubted; but the latter, they affirm, may reasonably be doubted.

In reply it is said that if consciousness can possibly deceive me in any one particular, then all trust in it is at an end; for I have nothing higher by which, as a criterion, to test its deliverances, and so a doubt of any one is equally applicable to all. Hence all philosophy would reduce at once to extreme agnosticism, or the impossibility of any certain knowledge whatever.[1]

---

[1] This is the gist of Hamilton's famous argument for immediate perception, which contributed more perhaps than any other one thing to his great reputation. See it elaborated in *Meta.*, Lec. 15; and in *Discussions*, article *Phil. of Percep.;* but most carefully and fully stated in *Reid*, appendix, note A.

The argument is open to criticism at several points. *E.g.* it hinges in its progress on the statement that because it has never been shown that consciousness contradicts itself, therefore the logical presumption is in favor of its truthfulness. Allowed; but since there can be no more certainty in a conclusion than is in the premises, his conclusion is merely presumptive, and not demonstrative as he claims it to be.

Again, the argument is in form a *reductio ad absurdum.* But the conclusion does not contradict an assumed premise, nor is it self-contradictory; there is no logical absurdity. Nor is there even a philosophical absurdity, *i.e.* a violation of the Law of Parcimony (§ 82, note). The conclusion, if proved, would violate our most cherished convictions, but should not on that account alone be rejected.

Moreover, the subsequent paragraph in the text above shows that the argument is *Fallacia figuræ dictionis*, a form of fallacy on which Hamilton heaps contempt. See his *Logic*, § 78.

A better reply is as follows: The distinction between the fact that testimony is given, and its truth, is inept in this case. Testimony implies two parties; here is but one. To say that literally I myself testify to myself is absurd. Consciousness as a witness is only a misleading metaphor. Dismiss the figure of speech, and the distinction vanishes, the testimony of consciousness to a non-ego becomes simply consciousness of a non-ego.

§ **103.** Let it be granted, then, that each of the percepts is a quality of a non-ego. Most of them, however, as odor, savor, sound, color, and tangibility, are, in immediate perception, only excited states of the sensory or brain, which is, therefore, the true non-ego of consciousness. They have no existence, as we perceive them, in external bodies. These are only the occult and remote causes of the percepts, which are consequently reckoned as merely secondary qualities of body. The primary, essential, and defining qualities of body are extension and impenetrability.[1] These are supposed to exist in the external body itself in the same manner in which they are perceived. Unless they are immediately perceived, we cannot be said to have immediate perception of body as it really exists, a consciousness of matter in its essential features.

§ **104.** Perception of extension, which is denied to the other senses, is attributed to sight and touch as a secondary percept (§§ 19, 24). Let us examine touch. Suppose that without seeing it, or other premonition, my open palms are lightly touched simultaneously. The contacts are not to differ in kind or degree. Now it is unquestionable, not only that I am conscious of these contacts, but that I consciously distinguish them numerically as two. But this is impossible unless I am conscious that they are apart from each other.

---

[1] The primary and secondary qualities of body are discussed, historically and critically, by Hamilton in *Reid*, note D. See also Mansel, *Meta.*, p. 97.

The consciousness that they are apart is consciousness of extension.

It is needless just now to follow out the details by which I pass from this elementary form of the cognition to a full knowledge of body as occupying space in three dimensions. It is sufficient here that by touch I have an immediate knowledge of body in this primary quality, geometrical extension.[1]

Now consider the percept of the muscular sense. The weight of my limbs necessarily exerts various pressures on the nerves that penetrate the muscular tissue. There can be no pressure without its correlative resistance. Of this resistance I am passively conscious. But the consciousness of the resistance of body to compression is a consciousness of its physical solidity, or impenetrability.

Thus in the exercise of touch and the muscular sense, which usually co-operate, is given an immediate and proper knowledge of body in its real and essential characteristics.

§ 105. The body thus made known to me is my own sensitive organism. This much is given by sense. If no more than this, I could never know even of the existence of an outer world of things. But my limbs are framed for locomotion by voluntary muscular energy. Herein is a new experience, a new immediate cognition. I am conscious of an effort, of a nisus or striving to overcome a resistance.[1] In the muscular sense-perceptions that follow it, I am conscious that the resistance yields, that is, I am conscious of inertia overcome. This is a consciousness of motion.[2]

---

[1] The origin of the notion of space is much discussed by recent psychologists. Is the knowledge of extension and its determinations, length, breadth, thickness or distance, position, form, etc., inborn or derived from experience? Many theories have been proposed, classified by Helmholtz as native and empirical. Empiricists hold that knowledge of extension comes through experience from elements that have no spatial form, either by deduction from them (Herbart), or by a transforming power of association (Bain). Nativists maintain that knowledge of space cannot originate in data of consciousness which are merely intensive, and that it is an original datum, native, innate. Nativism is divided into nativism of product (Kant) and nativism of process (Lotze, Wundt). The latter is well expressed thus: "The mind has a native and original capacity of reacting upon certain physical data in such a way that the objects of its activity appear under the form of space." — BALDWIN, *Psychology*, p. 121. See also Ribot, *German Psychology of To-day*, ch. 4. The doctrine of the present treatise might be classed as nativism of process, differing, however, from the foregoing, and holding that on an empirical occasion, *i.e.* a sense presentation, the pure intellect has native power to discern space, time, and other non-sensuous realities. Our views are given below, in chs. 6, 7.

In this experience I am not merely a patient, but also an agent. My nervous organism is herein cognized, not as merely affecting me, but as a means, subject to my will, by which I affect something else. In this positive activity, in this consciousness of being a cause, I immediately cognize the effect on something opposed to and distinct from my organism, on some outer thing resisting the action. Thus, in the exercise of locomotive energy, I become aware of the existence and properties of material things outside of my organism.[3]

Hence it appears that the primary knowledge of extra-organic body, or in general, of an outer world, depends, not on the relation in which it stands to perception by the senses, but to volition. Voluntary energy is the source of this knowledge; the muscular sense, only the secondary and possibly the contingent accompaniment.[1]

---

[1] According to Wundt there are two distinct elements involved in voluntary movements of the muscles: first, a feeling of effort, and second, a feeling of resistance. The feeling of effort arises from the expenditure of nervous energy at the centres, and is called also feeling of innervation. The feeling of resistance, on the other hand, seems to have its seat in the muscle affected. It is the sense of opposition to muscular movement, and is connected with sensations of pressure. — *Theorie der Sinneswahrnehmung*, p. 376 sq. See Baldwin, *Psychology*, p. 89.

[2] "That a thing is movable cannot be known *a priori*, but only from experience." — KANT, *C. P. R.*, p. 95, note.

[3] "When I am conscious," says Hamilton, "of the exertion of an enorganic volition to move, and am aware that the muscles are obedient to my will, but at the same time aware that my limb is arrested in its motion by some impediment, — in this case I cannot be conscious of myself as the resisted relative without at the same time being conscious, being immediately percipient, of a not-self as the resisting correlative. . . . In the consciousness of being thus resisted is involved, as a correlative, the consciousness of a resisting something external to my organism." — In *Reid*, note D* (pp. 866, 882).

§ **106**. When a limb, moved by volition, encounters an exterior obstacle, I could not, probably, by the combination of volition with muscular sense alone, distinguish between the limb and the obstacle. But since such encounter involves contact with the skin, the sense of touch co-operates with these, and enables me to make the distinction. By the triple combination, then, I discriminate between my own frame and foreign bodies. The mechanism of the hand and arm is peculiarly fitted for the exercise of this combination. By manipulation or handling I ascertain the shape and many other qualities of things. By this I learn the shape of my own body, distinguishing between it and foreign bodies by virtue of the double touch which it affords. Manifestly, the experience is quite different when I clasp my hands, and when I grasp the hand of another person.

It appears, then, in general, that we have an immediate perception, not merely of a material non-ego, but further, of extra-organic body, and that the existence of an outer world of things is a fact of consciousness.

§ **107**. The order in which the senses and their percepts have been discussed must not be thought of as the natural order of development. Of this nothing has been said. The elements of the discussion have been obtained by logical analysis, and recombined in logical order. Any attempted synthesis in natural order would be largely conjectural. The processes have mostly occurred at a period too early to be remembered, some of them probably *in utero*.[1] As we know not how the bones do grow in the womb, so we know not how the mind proceeds in its development. Only the matured consciousness is capable of introspection, and it finds its percepts already bound up with acquisitions into a complexus that is almost inexplicable, and that completely defies the most skilful analyist to tell how it was woven.

---

[1] "Supposing all muscular feeling abolished (the power of moving the muscles remaining, however, entire), I hold that the consciousness of the mental motive energy, and of the greater or less degree of such energy requisite, in different circumstances, to accomplish our intention, would of itself enable us always to perceive the fact, and in some degree to measure the amount, of any resistance to our voluntary movements; howbeit, the concomitance of certain feelings with the different states of muscular tension renders this cognition not only easier, but, in fact, obtrudes it upon our attention." — HAMILTON, in *Reid*, note D (p. 864). He does not, however, attribute any special percept to muscular sense (§ 27) apart from that given in voluntary movement. And this is very generally true of the more recent psychologists.

It is, however, worthy of remark that the combination of the tactile sense with the muscular sense under the influence of volition, seems to be an important condition of the development of the cognitive intelligence. With the other senses only, we would be forever shut up to a knowledge of self in opposition to a few sensorial phenomena. But the combination named introduces us to the universe. Men are sometimes born destitute of smell, taste, hearing, sight, but never, perhaps, of the tactile and muscular senses. Defects of sense, such as actually occur, consist with a limited intelligence, but it is inconceivable how intelligence, even of a low brute form, could arise in a being deprived of tactile and muscular sense, or, indeed, if all the senses were perfect and volitional power over the muscles were wanting.

---

[1] Müller (see § 44) very plausibly speculates as follows: "The uterus which compels the child to assume a determined position, and gives rise to sensations in it, is also the means of exciting in the sensorium of the child the consciousness of something thus distinct from itself, and external to it. The child governs the movements of its limbs, and thus perceives that they are instruments subject to the use and government of its internal self; while the resistance which it meets with around is not subject to its will, and therefore gives it the idea of an absolute exterior. In this way is gained the idea of an external world." — *Physiology*, p. 1080, Baly's tr.

CHAPTER V.

SELF-PERCEPTION.

§ **108.** The specific power of mind next in order after perception is self-perception. Self-perception is the immediate cognition of a subjective object. Consciousness is sometimes defined as the immediate knowledge of our mental actions and affections. If this were correct, there would be no difference between consciousness and self-perception. But consciousness is much more than this; it is general, it attends all our mental activities, it is their common characteristic, every mental state is in itself a conscious state; whereas self-perception is only one special mode or modification of the cognitive consciousness, and might fairly be defined as the consciousness of a subject-object.

This power is sometimes called the internal sense, and we shall find it convenient to use the term sense thus generically, as including both perception and self-perception, the external and the internal sense, these being our faculties of cognitive experience, or empirical intuition.

§ **109.** The distinction between self-perception and self-consciousness is refined, but real and important. It will be remembered that we resolved consciousness into the subjective phase feeling, and the objective phase cognition (§ 71). According to this view the term self-consciousness is appropriate to the subjective phase, but not to the faculty we are considering, since this is distinctly objective. True, its object is always subjective, always a mode of self, but it is a mode of self objectified.

We may illustrate the distinction thus: I am beholding a color, let us say the blue of the sky. I consciously perceive the color, or am conscious of perceiving the color, or am conscious of the color. This is perception. It is objective, for it relates directly to an object. Now the subjective correlative of perception is sensation, which is not a mode of cognition, but of feeling, and in and by virtue of the sensation only am I conscious that it is I who perceive. This is self-consciousness. I may, however, objectify a mental state. I may contemplate it as though it were apart, a thing distinct from me, yet known to be a mode of self. To do so is an act of cognition, is a consciousness of an object, though it is, indeed, a subjective object. This is self-perception.

§ **110**. Cognition is either presentative or representative. Presentative or intuitive cognition is either empirical or pure. Empirical intuition is distributed as perception and self-perception, the one relating to external, the other to internal experiences (§ 76). Hence the latter might fairly be defined as the consciousness of a subjective empirical intuition. By perception we have intuitive knowledge of matter; by self-perception we have intuitive knowledge of mind. The objects of perception are conditioned on and presented in time and space. The objects of self-perception are conditioned on and presented in time and self. Space is peculiar to the one, self to the other. Time is common.

§ **111**. The subjective object is really identical with the ego, is a mere modification of mind, but still the mind distinguishes it as an accident, as a mode from self. By an original constitutional power, I, the subject of that accident, project, as it were, my own act or state from myself, objectify it, view it as a phenomenon. A difference in the character of the objects thus presented authorizes a distinction of two varieties of self-perception, introspection, and reflection.

Let us exemplify the first. I am angry, and I am conscious of it, or rather it is a conscious state. But perhaps my cognitive powers are fully occupied by the object that angers me; then, though there is subjective consciousness of anger, there is no cognitive introspection of it. Now some one asks me: Are you angry? An introspective glance, a momentary objectification of my state while it still exists, an instant of self-perception, and the state is cognized and recognized, and I answer: Yes. So any present mental state not representative, as a perception, a feeling, a desire, a choice, an effort, may be cognized, may become the direct object of introspection. It is by this power of introspection that we are hereafter to study the phenomena of feeling, desire, and volition.

§ **112**. The other kind of self-perception is reflection. Reflection has already been distinguished from observation as attention to an internal object (§ 84). It is distinguished from introspection by the specific character of its object. The direct object of reflection is a mental image, such a one as I now form of a centaur, of the moon, of a strain of music, of the odor of violets, of my past anger, or of any object of past experience, external or internal. This image is itself a mere mode of mind, for it cannot be distinguished from the act of cognition. Since it is subjective, yet at the same time the object of cognition, a mode of self objectified, it is a specific object of self-perception, the immediate object of reflection.

The image is an object unlike the object of introspection. The latter is not, whereas the former is, representative. The object of introspection is complete in itself, being merely presentative; whereas the object of reflection, the image is incomplete in itself, being not merely presentative, but also representative of some other, of some remote, object; and this of necessity, for no act of cognition can terminate on itself.

Since reflection is, therefore, always an element of representative or mediate knowledge, the further consideration of it is postponed to Part III.

CHAPTER VI.

PURE INTUITION.

§ 113. Knowledge must have an ultimate basis. By a thorough analysis of our cognitions we must finally come to primitive truths beyond which we cannot and need not go. These primary cognitions are simple facts of consciousness. As merely given, they are presentative; as free from any intervention, they are immediate; as seen face to face, they are intuitive.

As a molecule or ultimate particle of water, one which cannot be resolved into constituent aqueous particles, is capable nevertheless of resolution into two impalpable gaseous elements of opposite character, so every fact of consciousness, though ultimate as a fact, is susceptible of analysis into at least two constituent and essential elements, the one sensuous, the other intellectual. That which is contributed to the total presentation or intuition by sense external or internal, by perception or self-perception, is sensuous, and being the element of experience, is called the empirical intuition. The datum of intellect, it being not at all sensuous, is called, negatively, the pure intuition. The union of the two is essential to the total and single cognitive fact, but by logical abstraction either may be contemplated apart from the other.

Although neither of these intuitive elements can be actually realized in consciousness apart from the other, still, in the logical analysis of the mental acts, they are assigned to different faculties. The empirical intuition is exercised by sense strictly taken, either by perception or by self-perception. The pure intuition is exercised by pure intellect or reason.[1]

---

[1] This name of the faculty, pure reason, or simply reason, recalls the Platonic distinction between the intuitive reason, νοῦς, and the discursive

The objects cognized by pure reason are called pure or *a priori* intuitions, ideas, notions, principles, and pure or necessary truths. Accordingly, pure intuition may be defined as the immediate cognition by pure reason of a pure idea or necessary truth.[1]

§ **114.** Let us consider some examples of pure intuition. Whatever I am conscious of is always given along with the notion of its existence, *i.e.* it is, it exists here and now. Every act of consciousness is thus an affirmation of the existence of a thing; for we are conscious only as we apprehend a thing, and we apprehend it only as we affirm it to exist; hence existence must be attributed to the thing by the mind.[2] Now existence itself is not an object of sense, but of pure intuition. Every object of sense, however, is attended by this idea, and each immediate cognition, therefore, is made up of a presented sensuous experience of a thing, complemented by a pure intellectual intuition of its existence.

When phenomena of mind or of matter, subjective or objective, occur in succession, it is evident that the cognition implies, in the concrete, the cognition of time. Now what is time? It is not an object of perception; we can neither see it, nor hear it, nor handle it, nor is it a mode of mind. It is simple, not being capable of resolution, and as a last product

---

reason, διάνοια, running to and fro. Let us, then, not confuse reason with to reason or reasoning. The one is a faculty, giving immediate insight, the other is a logical process. Kant used the name pure reason, *die reine Vernunft*, followed by Jacobi and the German thinkers generally. As reason is opposed to the logical faculty, so pure is opposed to sensuous. Hamilton calls pure reason "the regulative faculty," but doubts if it be properly a faculty. Other names have been used and abused.

[1] The nomenclature of the subject is remarkably varied and unsettled. See Hamilton's famous note A, in *Reid*, § 5, for a historical and critical examination of the multitude of synonyms used; cf. *Meta.*, p. 514. For the use of *a priori* and *a posteriori* by Kant, as distinctive of pure and empirical cognitions, see § 50, note.

[2] Existence, *ens*, is commonly viewed by philosophers as the *primum cognitum*.

of analysis it is ultimate. It is indefinable and incomprehensible, not being referable to any more general idea. Yet every human mind has knowledge of time, and needs only that the meaning of the word be pointed out in order to make the simple analysis that abstracts the pure idea, and clearly apprehends it apart.

Again, when I am conscious of body, which is a sensuous experience, there is implied an apprehension of space. Now what is space? It is not an object of sense. Yet as an idea original, simple, clear, and incomprehensible, it is in possession of every one.

When I am conscious of a change in phenomena, either subjective or objective, I apprehend there must be some cause of the change. Now in this proposition change is a sensuous element, it is a conception which can be derived only from experience. But what of causation? This idea is not sensuous, but pure, not derived from experience, common to all minds, primary, indefinable, presentative, immediate, intuitive.

In general, then, these pure elements of cognition are not given by, yet always attend, or are evoked by, sensuous experience. I have no proper experience of them, they are not empirical. Separated by abstraction from their empirical accompaniments, they are distinguished as pure intuitions, or pure ideas.

Other examples are the idea of substance, of unity, of identity, the law of contradiction, the idea of right, and of infinity.

§ **115.** The characteristics of these pure ideas and principles are now to be considered.

They are abstract. The pure or *a priori*, and the empirical or *a posteriori*, elements are always originally conjoined, and indeed, without the union of the two, no cognition is possible. Since the pure elements actually occur only in this concrete combination, it requires analysis by abstraction to effect their logical separation. Qualities of things, such as tall, strong, brave, honest, which cannot actually exist apart from the things, have assigned to them by abstraction a logical independence, as expressed by the abstract terms height, strength, courage, honesty. So the pure elements of cognition, which, though not qualities, yet are actual only in the concrete, have a similar logical independence given them, as expressed by the abstract terms time, place, substance, causation, etc.

Complete cognition does not require this analytic abstraction. Actually an intuition consists of pure and empirical elements in the concrete. Only by thinkers is the pure element clearly discerned, and set apart as an abstract idea. The chief difference is that so long as it is in the concrete, the pure element is limited, by the connection in which it stands, to that individual case; whereas, when taken abstractly, then its strict universality appears.

§ **116**. They are catholic; that is, they exist in every human mind, even the most ignorant, the most immature. Any one hearing of a murder will ask: When? Where? Why? Wherefore? These inquiries imply the pure ideas of time, place, efficient cause, and final cause. Every one regards murder as a crime. This implies the intuitive distinction between right and wrong.[1]

The catholicity of the pure elements of cognition is without limit. Manifestly the vulgar mind is regulated by such ideas and principles, and though it does not usually explicate them, still, did they not exist, the simplest knowledge would be impossible.

§ **117**. They are self-evident. Many of the pure intuitions may be expressed in propositions instead of single terms, and perhaps some require this form. *E.g.:* A whole equals the sum of its parts; Every event is caused; Benevolence is right, etc.

---

[1] See Cousin, *Le Vrai, le Beau, et le Bien*, p. 41.

In this form they are called principles, axioms, first truths, transcendental truths, constitutive and regulative truths, primary laws, etc. These are self-evidently true; they have in themselves original authority.

That a thing cannot both be and not be, is a proposition which the human mind can neither deny nor doubt. Yet it has no guarantee, it reposes on nothing beyond itself, it is merely self-evident. That the three angles of a triangle are together equal to two right-angles, is not self-evident, though it may be clearly, positively, and with certainty demonstrated; for its truth is not seen without proof, without reference to principles. But that two straight lines cannot enclose an area, does not require, and indeed is incapable of proof; it cannot be deduced or inferred, it has the light of truth in itself and needs not to borrow. Such principles or first truths are the primary ultimate premises of all demonstrated truth.[1]

§ **118**. They are certain; that is, their truth being unconditional or absolute, a doubt of it cannot exist. Absolute truthfulness and self-evidence are the negative and positive views of the same thing. Attending it is the feeling of entire and immovable certainty. Says Aristotle: "It is not only necessary that we should be endowed with an antecedent knowledge of first principles, but also that this knowledge should be of paramount certainty. For, whatever communicates a quality to other things, must itself possess that quality in a still higher degree, as that on account of which we love all objects that partake of it, cannot but be itself pre-eminently an object of our love. Hence, if we know and believe through first principles, we must know and believe these themselves in a superlative degree, for the very reason that we know and believe all secondary truths through them."[1]

---

[1] Self-evidence is the first of Buffier's essential qualities of primary truths. "The first of these characters is that they be so clear that when one undertakes to prove them, or to disprove them, he can do it only by propositions which manifestly are neither more clear, nor more certain." — *Traité des Premières Vérités* (A.D. 1717). His was perhaps the first comprehensive attempt to found philosophy on primary truths.

It was a principle with Descartes that "all things which we may clearly and distinctly (*claire et distincte*) conceive are true." — *On Method*, pt. iv.

§ **119.** A primary fact, a fact of consciousness as a whole, was likewise found to be self-evident and certain (§§ 67, 69). These characteristics, therefore, will not serve to distinguish the pure element from the empirical matter with which it is combined. A criterion is needful to mark the distinction, and it is found in the necessity which specifically characterizes the objects of pure intuition.

A pure idea or truth is necessary; one involving empirical matter is contingent. That is contingent of which I can at least conceive that it need not be; that is necessary of which I cannot conceive that it need not be, or, positively, of which I must conceive, not merely that it is, but that it must be. Facts of experience are such as are themselves possible, and whose opposites also are possible; they are such as are liable to occur, yet may not; they are incidental and casual and dependent on circumstances or choice; in a word, they are contingent. But pure truth has no negative alternative in any case; it is in no manner or measure whatever reversible in thought; I cannot but think it; the opposite is inconceivable; in a word, it is necessary.[2]

For example: In analyzing any cognition whatever, I find always this fact of consciousness, self-existence, I am. Now in this duad the element self is contingent. While in fact I do exist, my existence is not at all necessary. I am a mere accident in the universe, my presence therein is not essential, and my annihilation is quite as conceivable as my creation. But the other term of the duad, the idea existence, is not at all contingent, it is necessary. I cannot conceive of a non-existent; whatever I conceive is necessarily conceived as existing. So the primary datum of consciousness, I am, consists of two elements, one empirical, one pure.

---

[1] *Anal. Post.*, i, 2, § 16.

[2] Necessity as opposed to contingency is of two kinds. The certainty that attends a present fact of consciousness (§ 69) comes of the necessity I am under of cognizing it as actually existing. Still this actuality of existence is merely accidental. When it is not present, but is contemplated through a representative idea, this necessity disappears; there is no necessity that I should think it to be, or that it should be; it may or may not be, it is wholly contingent. But in case of a datum of pure intuition, I am necessitated to think not merely that it is, but that it necessarily is. When it is not present, but represented through a pure idea, this necessity remains. It is this sort of double necessity that differentiates the object of pure intuition. Hence we call it specifically a pure and necessary idea.

Another example: That body is heavy is a judgment *a posteriori*, a synthesis from experience. Now though my experience of weight in connection with body has been invariable, without ever an exception, yet the judgment is contingent, it may or may not be. I can easily conceive of a body having no weight. Indeed, until recently, a class of imponderables was recognized by physicists. But that body occupies space is not given by experience, is not an empirical fact or judgment, but an analytic judgment *a priori*, a pure intuition. For while we have experience of body as heavy, we have no experience by any sense that it occupies space, since no sense is percipient of space. Yet this judgment is self-evidently true; it is not at all contingent, it is necessary. We cannot conceive of body not occupying space; that it does occupy space must of necessity be true.[1]

§ **120**. Furthermore, "an empirical judgment never exhibits strict and absolute, but only assumed and comparative, universality. Therefore, the most we can say is, so far as we have hitherto observed, there is no exception to this or that rule. If, on the other hand, a judgment carries with it strict and absolute universality, that is, admits of no possible exceptions, it is not derived from experience, but is valid absolutely *a priori*. Necessity and strict universality, therefore, are infallible tests for distinguishing pure from empirical knowledge, and are inseparably connected with each other. But as in the use of these criteria, the unlimited universality which we attach to a judgment is often a more convincing proof than its necessity, it may be advisable to use the criteria separately, each being by itself infallible."[1]

---

[1] See Kant's celebrated analysis of judgments, *C. P. R.*, Int., § 4. The distinction between necessary and contingent truth can be traced to Aristotle. Descartes uses necessity as a criterion in many places. *E.g.*: "This proposition, I am, I exist, is *necessarily* true." Again: "I now admit nothing that is not *necessarily* true." — *Meditations*, ii. Yet again: "Though certain general objects, as bodies, be imaginary, we are nevertheless absolutely *necessitated* to admit the reality of at least some other objects still more simple and *universal* than these." — *Id.*, i. It was, however, first explicitly enounced as a criterion by Leibnitz, and used systematically and efficiently by Kant in his *Kritik der reinen Vernunft*.

It is manifest that necessity and strict universality are the same thing in different aspects; for when a truth is necessary, it is *eo ipso* universal, and that a truth is strictly universal is an unerring index that it is necessary. Hence neither is to be considered as secondary, or as subsidiary to, or as derived from the other. Both are named, because sometimes the one is more easily applied as a test, sometimes the other.

§ **121.** In connection with the characteristic of strict universality, it should be particularly observed that general truth is of three distinct kinds: —

First, a mere logical generality is attained when we think, within the limits of experience, the similar to be the same. Thus: All the members of my class are studious; Every day I find a duty; Each of the States has two senators. This generalization is an artifice or fiction of intellect, a fictitious means of giving order and compactness to knowledge, and thus bringing it within grasp.

Second, by the hazard of induction, truth is extended beyond the limits of actual experience, and declared general or universal. Thus: Every particle of matter attracts every other particle; Day always succeeds night; No one is perfectly content. This, however, is only an empirical, inductive, and precarious universality. Exceptions may actually, or at least conceivably, occur.

---

[1] From *Critique of Pure Reason*, Int., § 1.

Third, pure truth also is said to be general, but this generality is attained neither by generalization, nor by induction. When we have abstracted the pure element, we immediately cognize it as absolutely universal, true always and everywhere. Every rule derived from experience has actual, possible, or at least conceivable exceptions; a rule given by pure reason has no exception, it is without the conceivable possibility of an exception, past, present, or future, in all the universe of things. Such truth transcends the limits of possible experience, and has unlimited, universal validity. Thus: Space is infinite; An attribute and a being exist only as they coexist; Contradictory attributes cannot coexist; I ought to be truthful. As has already been said, most persons do not abstract and formulate these primitive *a priori* cognitions. Nevertheless, their strict universality is practically, though obscurely, apprehended, which is evident from the unhesitating use of them in each particular case; and likewise their necessity, as is shown by the confident assertion that such and such a thing must be so, it would be nonsense to speak otherwise. The thinker disengages them, and sets the abstract and universal forms clear in consciousness. This, however, is not to constitute, nor to derive, nor to generalize them; but only to discern them. They leap ready armed from the womb of reason, like Pallas from the head of Zeus.

§ **122**. The catholicity just referred to must also be distinguished from universality. The one means that the pure intuitions are, potentially at least, in every human mind; the other, that they are universally true, always and everywhere, even should all mind cease to be. That pure truths are common to all mankind is simply a consequence of their own inherent necessity and universality.

On the other hand, because a judgment is common, it does not follow that therefere it is a pure truth. All men once held that the sun revolves around the earth; and that a body cannot act where it is not. This last, indeed, has much the appearance of an intuitive, axiomatic, necessary truth, but falsely assumes that body acts only by contact.[1] That all men judge so and so, is not a guarantee of truth of any sort; but when a truth is intuitive, this is a sure guarantee that all men think accordingly.

§ **123**. Many attempts have been made to classify pure intuitions, but none has been generally approved. It is conceded that Kant's system of categories is a failure. These ideas are so subtle, so mutually interwoven, so evasive and pervasive, that they seem to defy distinct enumeration and articulate arrangement. We can hardly divest them completely of empirical matter, and in cases where thought succeeds in this, language fails to express them in pure nakedness. They appear to be numerous; but could we fix the naked truths, each by a suitable sign, it might greatly reduce their apparent number, and enable us to classify them. We shall not attempt a classification, nor discuss them in detail. Indeed, not much can be said about them. Their light, says McCosh, is like that of the sun, which darkens as we gaze on it. They behave like Macbeth's witches. "When I burned in desire to question them further, they made themselves — air, into which they vanished."

---

[1] This reminds us that Newton, it is said, was sorely perplexed by the notion of gravity, being unwilling to admit the possibility of action at a distance, which Faraday also rejected as an impossible conception. Should not these eminent physicists have admitted it as a fact revealed by nature, as ultimate and therefore incomprehensible?

CHAPTER VII.

ORIGIN OF PURE TRUTH.

§ **124.** A close consideration of the origin of pure ideas and principles reveals many difficulties. Psychologists and metaphysicians entertain various opinions respecting it, and just here engage in such fierce and endless controversies, that the ground we now venture upon is fairly termed *campus philosophorum*. The questions in debate may be stated thus: Does the knowledge of pure truth originate within or without? is it innate or adventitious? Is the object ideal, or has the pure idea a corresponding reality in nature? If real, is that reality itself intuitively known, or is it known only through a representative idea? These are difficult questions. The first alone offers room for wide divergence. The history of opinions, touching the acceptance or rejection of such notions as native, is, in a manner, the history of philosophy; for as the one alternative or the other is adopted in this question, the character of a system is determined. The chief parties to this primary form of the controversy are empiricists who deny, and intuitionists who affirm, the innate or subjective origin and character of the pure intuitions.

§ **125.** Modern empiricism has Locke for its founder. He maintained an old aphorism, traceable to the Stoics, that there is nothing in intellect that was not previously in sense. "*In intellectu nihil est, quod non prius fuerit in sensu.*" To support their doctrine, the Stoics had seized upon a passage in Aristotle, in which intellect prior to experience is compared to a tablet on which nothing has been actually written, a "*tabula rasa.*"[1] This also Locke adopted, and the two have since been the favorite text and formula of his followers.

His doctrine he states as follows: "Whence hath mind all the materials of reason and knowledge? To this I answer in one word, from experience; in that all our knowledge is founded, and from that ultimately derives itself. Our observation employed either about external sensible objects, or about the internal operations of our minds, perceived and reflected on by ourselves, is that which supplies our understanding with all the materials of thinking. These are the fountains of knowledge from whence all the ideas we have, or can naturally have, do spring, that is, sensation and reflection."[2]

Empiricism has found many able advocates, but none stronger than J. S. Mill. His avowal of it is very distinct. "It remains to inquire," says he, "what is the ground of our belief in axioms, what is the evidence on which they rest? I answer, they are experimental truths, generalizations from observation. The proposition: Two straight lines cannot enclose a space, is an induction from the evidence of our senses."[3] He finds necessity or inconceivability to consist either in invincible association, or in that a logical contradiction is meaningless.

---

[1] *De Anima*, iii, 4, § 14. The context seems inconsistent with the inference that Aristotle favored empiricism.

[2] *Essay on the Human Understanding*, bk. ii, ch. 1. Condillac and others of the French philosophers rejected reflection as a distinct source of knowledge, and their doctrine, to distinguish it from that of Locke, is called sensationalism. What Locke means by reflection is obscure, and has been the subject of much debate.

[3] *Logic*, bk. ii, ch. 5, § 4. See also his *Ex. of Hamilton's Phil.*, ch. 6. "Two and two may be five in some other world," he says. Herbert Spencer sharply criticises Mill's views in *Principles of Psychology*, § 426 sq. He maintains the "universal postulate" that "cognitions of which the predicates invariably exist along with their subjects express a necessary relation in consciousness, and have the highest possible certainty." To his criticism Mill replies in the eighth edition of his *Logic*. See addendum to bk. ii, ch. 7, § 4 sq.

Thus the empirical philosophy denies all *a priori* cognition of truth, all purely intuitive ideas and principles. It denies that the intellect is itself a source of knowledge, and that there is any essential distinction between contingent and necessary truth. It holds that sensuous experience is the origin and sole basis of all knowledge, and that necessity arises only because of an experience that is invariable, and hence invincible in thought. Logically and historically, empiricism results in materialism ; its more immediate offspring is sensationalism or sensualism.[1]

§ 126. A reply to empiricism, denying the sufficiency of experience and insisting that the distinction between contingent and necessary truth is essential, is as follows: Experience, even invariable experience, however large, cannot establish necessity. That the sun moves westward is our invariable experience, yet it is not conceived as necessary, but as contingent, for however improbable an exception, one is easily conceivable.[2] On the other hand, experience is not requisite to necessity. That two intersecting circles have two and only two points in common, is a truth which does not require any specific experience in order to command assent, and which is conceived not at all as contingent, but as necessary. It must be so in every case, always and everywhere. An exception is absolutely inconceivable, and would be more than a miracle.[3] There is, therefore, an essential difference in such conceptions, indicating a different origin.

Let us argue the distinction more articulately. The proposition, Every change is caused, is, says the empiricist, an induction from experience. But it cannot be so for these reasons: —

---

[1] Termed contemptuously by Fichte, "the dirt philosophy."

[2] *E.g.* the dial of Ahaz. — 2 Kings 20:11.

[3] This strong expression is used advisedly. Infinite power may cause the sun to retrograde, or may quicken the dead, but cannot make a thing to be and not be, cannot reconcile contradictories. The infinite is limited.

First: An empirical judgment is not necessary. Experience tells us only what actually is, not what must be. The most ample evidence from observation that each change does actually have a cause would never prove that change must have a cause. Induction from experience reveals the established laws of nature, but can never discover what connections of things are necessary.

But this judgment is necessary. It is not that changes commonly have a cause, or even that they always in fact do have a cause, but that they must have a cause, and cannot possibly occur without a cause.

Therefore, this judgment is not empirical.

Second: An empirical judgment is not strictly universal. It can have only a degree of probability proportioned to our experience, and is always so understood as to leave room for exceptions, if future experience shall discover any. The law of gravitation, that every particle of matter in the universe attracts every other particle, has as full proof from experience and induction as any empirical truth can be supposed to have, yet physicists have supposed the existence of imponderable bodies. Such universality, then, is not strict, but hazardous, precarious, probable perhaps in a very high degree, but liable to exceptions that are at least conceivably possible.

But this judgment is strictly universal. Neither philosophers nor the vulgar have ever considered the principle as one admitting limitation or the possibility of exception. They consider that it must always have been true, must now be true, must always hereafter be true, in every case throughout the universe.

Therefore, this judgment is not empirical.

Third: An induction must have sufficient grounds in experience. Unless the principle of causation now before us be itself involved in the proof, it requires a very thorough experience of very many cases to justify an induction of a general truth, and this is the most hazardous form of induction. But it is obvious that the principle cannot be used in proof of itself. Hence if it be an induction, it can be so only through much experience of it.

But this judgment has not sufficient grounds in experience. The causes of by far the greater part of the few changes in nature that fall within our observation are wholly unknown, and therefore our experience does not inform us whether they have causes or not. Indeed, causation is not an object of external sense. The only actual experience we have of it is in the consciousness of an energy in ordering our thoughts and actions. Surely this is insufficient ground for the general conclusion that every change in the universe that has been or shall be must have a cause.

Therefore, this judgment is not inductive.[1]

§ **127.** The opposed intuitional philosophy, in its modern phase, originated with Descartes. "Of ideas," says he, "some appear to me to be innate, others adventitious, and others to be made by myself."[2] Leibnitz expounded and defended it more fully. He controverted Locke's Essay in a work bearing a like title,[3] and subsequently[4] made an addition to the empirical text, thus: "*In intellectu nihil est, quod non prius fuerit in sensu, nisi intellectus ipse*"; which clever retort, more clever perhaps than clear, has become famous.

---

[1] The logic of these statements is unquestionably good, and cannot be refused, but an empiricist would deny the premises. *E.g.* Mill, in his opposition to metaphysical conceptions, as a disciple of the positivist Comte, denies any experience of efficiency in causation, and reduces cause to "unconditional invariable antecedent." — *Logic*, bk. ii, ch. 5, §§ 2, 6. His denial of all intuitive knowledge leads him to maintain that while the principle of causation is the ground of induction, induction is the ground of the principle of causation. Empiricism revolves in this circle, and Mill labors to justify it with all his great acumen. — *Id.*, bk. ii, ch. 4, § 3; and ch. 21. Within our limits it is impossible to discuss empiricism adequately. We can only introduce the reader to the question.

[2] *Meditations*, iii.

[3] *Nouveaux Essais sur l'Entendement Humain.*

[4] In a letter to Bierling, A.D. 1710.

He means to say that the intellect itself is a source of knowledge, in accordance with the much lauded brocard: "*Cognitio nostra omnis a mente primam originem, a sensibus exordium primum, habet.*"[1]

This doctrine denies the *tabula rasa* of Locke. "We have ideas," says Leibnitz, "that are native to the mind (*menti insitis*), that arise from the profundities of the intellect, though they do not come into actual being until sense presents an occasion for their appearance. The truths of pure mathematics, for instance, have principles the proof of which does not depend on examples, and consequently not on the evidence of sense; howbeit that without the senses we should never have found occasion to call them into consciousness." So also of logic, and metaphysics, and ethics. In speaking of the power by which we know such truths, he says: "It is not a naked faculty, which consists in the mere possibility of understanding them; it is a disposition, an aptitude, a preformation, which determines our mind to elicit them, and which causes that they be elicited."[2]

§ **128**. In the system of Kant the pure intuitions are distinguished as "forms of cognition." The form is that which the mind itself contributes as the condition of knowing, and which it imposes on the matter of its knowledge. They are, then, wholly subjective, having nothing objective corresponding to them. He says: "That which in the phenomenon corresponds to the sensation, I term its matter, but that which effects that the content of the phenomenon can be arranged under certain relations, I call its form. . . . The matter of all phenomena is given to us *a posteriori;* the form must lie ready *a priori* for them in the mind." See § 50, note. "There are two pure forms of sensuous intuition, as principles of knowledge *a priori*, namely, space and time. . . . Space is nothing else than the form of all phenomena of the external sense, that is, the subjective condition of the sensibility, under which alone external intuition is possible. . . . Time is not something which subsists of itself, or which inheres in things as an objective determination. Time is nothing else than the form of the internal sense."[1]

---

[1] Patricius; see Hamilton, *Meta.*, pp. 285, 515.

[2] *Nouv. Ess.*, I, i, § 11. In illustration he says: "Let us make use of the simile of a block of marble which has veins, rather than of one wholly uniform, or of blank tablets; for if the mind resembled these blank tablets, truths would be in us as the figure of Hercules is in a piece of marble when the marble is altogether indifferent to the reception of this figure, or of any other. But if we suppose that there are veins in the stone which would mark out the figure of Hercules by preference to other figures, the stone would be more determined thereunto, and Hercules would exist there innately, in a certain sort; although it would require labor to discover the veins, and to clear them by polishing, and the removal of all that prevents their manifestation. It is thus that ideas and truths are innate in us, like our inclinations, dispositions, natural habitudes or virtualities, and not as actions."

In general, then, in the words of Mansel, "If there are in every act of consciousness certain invariable elements, which no change of consciousness can ever obliterate or alter, which no effort of thought can get rid of or conceive as absent, and without which consciousness itself cannot be imagined as possible, these may be conjectured to owe their existence to the constitution of the subject, which remains one and unchanged in successive acts, while the changeable features which distinguish one mode of consciousness from another are probably due to the different constitutions of the several things of which the subject is successively conscious. The former may therefore be distinguished as constituting the form or subjective ingredient of consciousness, the latter as constituting the matter or objective ingredient."[2]

This is the extreme of intuitionism. Those who hold with Kant this doctrine of transcendental knowledge in pure ideas must go with him into formal or critical idealism, and thence logically with Fichte into absolute idealism, and further into nihilism.[3]

---

[1] *Critique of Pure Reason*, p. 21 sq.

[2] *Metaphysics*, p. 55.

[3] Hamilton, dominated by Kant, accepts the doctrine of innate forms, and then sees only one escape from idealism, which is to admit both an empirical

§ **129**. The intuitionism now widely prevalent among philosophical thinkers is essentially that of Leibnitz and Kant. It may be restated succinctly thus: —

An empirical intuition is adventitious to the mind, and strictly sensuous. Being *a posteriori* or logically subsequent to, and in consequence of, the exercise of its powers of observation, it is, therefore, acquired and contingent. The matter is given to consciousness. A pure intuition is native to the mind, and strictly intellectual. Being *a priori*, or a logical antecedent, a condition and not a result of the exercise of its powers of cognition, it is, therefore, original and necessary. The form is given by consciousness.

That pure truths are native to the mind, or innate, does not mean that they are congenital in the sense of being born with and in us, and in conscious possession of the mind from the moment of birth. It means rather that the power of supplying such truth is provided for in the constitution of the mind, so that, when an occasion is presented by experience, it is then born of the mind, it then "arises from the profundities of the intellect," and complements its empirical occasion so as with it to constitute a cognition, somewhat as a lamp furnishes from within oil which rises to meet the inflowing air, and the two combine, giving light.

Pure ideas and principles are thus the conditions of knowledge, having a source and origin wholly subjective. They are formed in and by consciousness, which is constitutionally predisposed to this end. They are elicited or evoked by sense, yet are not the effects of sense, but are self-developed. As the condition of its intelligent exercise, they are logically but not chronologically prior.

Their criterion, necessity, is also viewed as wholly subjec-

---

and a pure knowledge of space and time. He holds, therefore, that they are "both real forms of thought and conditions of things." — *Meta.*, p. 647; see also pp. 346, 401. This is very curious, and savors more of eclecticism than of parcimony.

tive in its origin. Necessity is usually defined, negatively, as the impossibility of conceiving the contrary; positively, as the absolute subjective constraint to think and believe thus and so. Consequently, it is made to appear that pure ideas and principles, instead of being in their own nature irreversible and authoritative, owe this character to the peculiar constitution of mind, to the imbecility or the constraint of intellect. They are truths to us merely because our nature is such that we must think and believe them.[1]

§ **130.** It seems possible to take and maintain a view of the origin of necessary truths more in accord with the approved principles of psychology, and with the common judgments of men, possible to adopt a course which will carry us clear of both the Scylla of idealism and the Charybdis of materialism. This view is that mind is constituted with powers to know both itself and things other than itself, the conditions of their being, as well as their relations to each other; and not constituted with things or ideas of things implanted to be known, and with a predisposition to know them. Our cognitive constitution is such as fits us, not only for the empirical, but also for the pure intuition of objective reality. Consciousness in the presence of some adventitious, empirical matter perceived by sense, external or internal, has, beside and along with sense, an intellectual power to discern in the total fact an essential element, equally adventitious, but not at all sensuous. This is the power of pure reason. That element of the total which is not the object of sense, is the object of reason; and both elements are objective and real in the total thing known. Our capacity to know, though limited, is a capacity to know that which really is, though now we know only in part, yet that part truly. "*Nam neque decipitur ratio, nec decipit unquam.*"[1]

---

[1] That intuitionism logically and historically results in idealism, or that empiricism leads to materialism, is not an argument against either, but merely a warning to the student of philosophy. We have offered some logical objections to empiricism; let us here note one against the extreme intuitionism just described. We accuse it of bald self-contradiction. The necessary idea, of space for instance, is, according to Leibnitz, innate, and therefore, according to Kant, wholly subjective, having no corresponding objective reality. Nevertheless, according to both, I must think it real. Now look this in the face. I must think that real, which I prove to be unreal. I must believe that true, which I hold to be false. What I cannot possibly doubt, I do actually doubt. Is there any escape from this absurdity? It would seem to be merely an identical proposition that the reality and truth of what is necessarily conceived and believed to be real and true cannot be sincerely questioned or doubted.

For example: A series of events is observed to occur. That they are plural is not known by sense, but by intellect, the plurality not being imposed by me on them, but existing in the total datum, and discerned by pure reason. Let us suppose that the events are a series of thoughts; the time that is discerned as involved in the conscious succession is not a form imposed by me on the fact, but the form or rather condition of the fact itself; it is not an idea born of me, but an idea given to me by that and of that which actually and really exists in the fact, and is discerned by my power of pure intuition. Again, in reflecting that these events, these changes that occur, are not detached but grow out of each other, one producing another, I discern the necessary relation of cause and effect, a pure intuition of a reality existing in the relations of the things themselves; not imposed by me on them, but discerned by me as existing in them. Such ideas and principles, then, are not native or innate, do not originate in mind, but are adventitious, originating in the object, and mind has only a native or natural power to know them.[2]

According to this view, pure truth is objectively real. Time, space, causation, and the rest, are entities and facts, as truly so as matter and events. Their real existence does not depend at all on mind either to originate or to apprehend them, and they would continue to be, should all mind cease to be. Nor are they dependent upon things like qualities, which inhere in things, but, on the contrary, things are dependent on them. They stand thus prior to things in the relation of condition to conditioned. They must be, in order that things may be; the former necessary, the latter contingent. Thus time is a condition of events, space a condition of body, cause a condition of change, substance a condition of quality, non-contradiction a condition of thought, right a condition of obligation, etc. If a thing be real, its condition must be real.[1]

---

[1] *Manlius*, ii, 131.

[2] "Ni nos idées, ni nos sentiments, ne sont innés, mais ils sont naturels, fondés sur la constitution de notre esprit et de notre âme, et sur nos rapports avec tout ce que nous environne." — TURGOT, *Œuvres*, t. iv, p. 308.

§ **131**. Pure truth is primarily and immediately discerned in a presentative fact of consciousness. By abstraction it is contemplated logically apart from the accompanying empirical elements, and afterward this abstract object alone may be recalled to mind. Then and then only is it properly a pure idea.

An idea, whether pure or empirical, whether abstract or concrete, is always representative. The pure idea of time, for example, represents the objective reality. My idea of Mt. Blanc is an image representative of an objective reality, and by abstraction my idea of the space it occupies, and of the infinite space that surrounds it, is also representative of an objective reality. I cannot, however, form an image of that which is strictly pure, an image being always sensuous. The pure representative idea is entertained in like manner as I entertain other abstract cognitions; it is enabled to represent its object by virtue of some image of which it is the condition or which symbolizes it. Thus our complement of pure ideas and principles, originally adventitious, and acquired on the occasion of an exercise of sense, is retained by memory as a complement of abstractions, representative of objective and concrete realities.

---

[1] While observing that the pure element is objectively a condition of the existence of a thing, *conditio essendi*, it should be noted that subjectively the case is reversed, and the empirical element or sensuous experience which occasions the pure intuition is the condition of my discerning it, *conditio cognoscendi*. *E.g.* space must be, in order that body may be; but an experience of body must be, in order that a discernment of space may be. This corresponds to the logical condition or reason. *E.g.* if body is, then space must be.

§ **132**. Furthermore, necessity is recognized as the efficient and sufficient criterion of pure truth, but not at all as its ground, or as explanatory of its nature. Instead of explaining the nature of the idea by subjective necessity, we explain subjective necessity by the nature of the idea. We hold pure truth to be in its own nature essentially irreversible. That it is to us self-evident, adds nothing to its authority, but is merely the recognition of an authority which is inherent.[1] That a thing cannot both be and not be, that space is a real objective condition of body, that every change is caused, that love is a duty, are truths self-evident, authoritative, regulative, simply because in and of themselves true; subjectively necessary, because objectively real. Since I consciously and constrainedly know that things exist (§ 68), I am necessitated to conceive the existence of their essential conditions. I know certainly that body is, therefore I know necessarily that space is. So long as things are, their conditions must be. Pure principles are not true because we must believe them, but we must believe them because they are true. Their contraries I cannot conceive even as logically possible, because to do so I must first annihilate in thought the existing order of things with their conditions, and then, out of pure negatives, construct an inverted cosmos, which I freely confess myself unable to do.

---

[1] Dr. McCosh, like Father Buffier, takes self-evidence to be the primary characteristic of intuitive truth (see § 117, note). He shrinks, he says, from maintaining that a proposition is true because we must believe it, and adds: "I would not ground the evidence on the necessity of the belief, but I would ascribe the irresistible nature of the conviction to the self-evidence. — *Intuitions of the Mind*, p. 32.

Along with necessity is given universality. When I abstract the conditioning fact, its strict universality immediately appears. For example, when I discern cause as conditioning a change, this is to discern it as conditioning change in the abstract, and what is this but to think cause as conditioning change always and everywhere? This is not to generalize it, but merely to recognize a universality that is inherent. Generalization is a subjective fiction; universality is an objective fact. It is incapable of conceivable limitation, because to assign a limit would be to conceive beyond the limit an inverted order that is confessedly inconceivable.[1]

§ **133.** But does not this recoil from the Leibnitzio-Kantian view of the origin of pure truth carry us back into empiricism? Not so far. Do we give up pure intuition? Not at all. We hold that in addition to, or rather along with, perception and self-perception, there is intuition of truth that is both pure and real. The Lockian empiricism declares sense and reflection alone to be the sources of knowledge. We find a source also in pure reason. The knowledge is adventitious, but not sensuous. It is not an experience, nor given by experience, but in or along with experience. Empiricism declares that what we call a pure truth is merely an induction, a generalization from sensuous experience; we hold that its strict universality cannot possibly be reached by induction, and is not generalization at all. While we deny that a pure idea or principle is *a priori*, in the sense of native, we affirm that it is *a priori* in the more accurate sense of a condition, and that the empirical element is *a posteriori*, not as adventitious, but as conditioned.

---

[1] The general doctrine here proposed accords with the common sense of mankind, and is not wholly new in philosophy. Cousin says: "Consciousness is only a witness, it makes what is appear, it creates nothing. It is not because consciousness says to us that pure reason is constrained to admit such or such a truth, that this truth exists; it is because it exists that it is impossible for reason not to admit it. The truths that reason attains are absolute truths; reason does not create them, it discovers them. Absolute truths, are, therefore, independent of experience and consciousness, and at the same time they are attested by experience and consciousness. On the one hand, these truths declare themselves in experience; on the other, no experience explains them." — *True, Beautiful, and Good*, p. 49.

Sir John Herschel says sturdily: "The reason why we apprehend things as without us is that they are without us. We take it for granted that they exist in space, because they do so exist, and because such existence is a matter of direct perception, which can neither be explained in words nor contravened in imagination; because, in short, space is a reality." — *Review of Whewell, Essays*, p. 202.

§ **134.** In the examination of pure ideas and principles, we have passed from psychology into the domain of philosophy, the science of principles. That the laws of thought are laws of things, is a metaphysical thesis. To discover the relation that exists between sensible phenomena and supersensible entities, to determine the relation between the subjective necessities of thought and the objective necessities of things, to ascertain the relation of self-evidence to reality, are problems that have engaged the closest attention of the profoundest thinkers. But no approved and established solution of them having been reached, the controversy still goes on. The hope that it shall end is a hope for a solution, for these questions cannot be dismissed. They represent the deepest needs of human intellect. They lie on the threshold of the science that searches for freedom, immortality, and God. For while psychology is merely a system of natural order, and ethics a system of natural jurisprudence, metaphysics, in its full conception, is a system of natural theology.

CHAPTER VIII.

MIND AND MATTER.

§ 135. Thus far we have constantly endeavored to look upon mind as merely a complement of powers in exercise, that is, as a series of subjective phenomena, the thought-series let us call it, distinct from the objective or material phenomena, the thing-series. We have not allowed our examination of mind to be burdened and embarrassed by any theory as to its ultimate nature, and have made no inferences from the character or relations of the substratum underlying subjective phenomena.[1] There are, however, important questions respecting this substratum, questions that press for an answer, and that lead to grave consequences whatever answer they receive. We propose, therefore, in this supplementary chapter, to present briefly the principal views which are held by philosophers on the subject.

There are those who consider the substratum underlying phenomena, inasmuch as it is not an object of sense, to be merely imaginary and hypothetical. More generally, however, it is considered to be real, by empiricists as well as by intuitionists. The latter hold it to be necessary in thought. Substance is certainly not an object of sensuous perception, but is discerned by reason, by the insight of pure intellect.[1] In everything which I perceive or can imagine as existing, I distinguish two parts, qualities which are multiple and variable, and a being which is one and identically permanent. The former are perceived, the latter is a pure intuition. These two elements of a cognition are so united that I can separate them only logically. I cannot even imagine either one as truly existing apart from the other. There is no quality, property, attribute, mode, or activity which is not of necessity the quality or activity of some being, and this being having the quality or activity is substance. Each of the thought-series, each of the thing-series, must be referred to a basis, to an underlying substratum, to a being of which it is the manifestation, and which gives unity to each series. Mind or the ego is commonly viewed as the permanent basis of the thought-series, and matter as the permanent basis of the thing-series.

---

[1] There are only two ways, says Wundt, of conceiving the mind, as an act and as a substance. According to the first, the psychic is pure actuality, immediately given in the manifestations of the mental life. Hume, Kant, Fichte, Hegel, and Wundt himself, give prominence to this view. To the second conception belong all theories according to which psychic facts are manifestations of a substratum, a substance material or immaterial. Most philosophers discuss this view subordinately.

Now the difficult and weighty question arises: Are the two series manifestations of one and the same substance, or of two diverse substances? Monism is the doctrine of one substance. It has taken three specific forms, idealism, materialism, and absolute identity. Dualism is the doctrine that mind and matter are two distinct substances. Of these now, in their order.

§ 136. Idealism teaches that mind is the only substance. The existence of things in space is either doubtful and undemonstrable, or false and impossible. The first is the problematical idealism of Descartes. It admits the strict certainty of only one empirical proposition, to wit: I am; alleging an inability to prove, on this exclusive basis, by means of immediate experience, the existence of anything besides self and its modes, and so leaving objective reality in doubt and improbable. The second is the dogmatical idealism of Berkeley. It maintains that neither space nor the things of which it is the inseparable condition, are real, but are mere products of imagination. I have sensations and ideas; these alone exist, all else is unreal; the existence of an external world being an illusion which philosophy corrects.

---

[1] See it mentioned at the close of § 114. See especially § 50, and the notes. "Substance is a term for the substratum we are obliged to think as underlying mode, state, quality, etc." — Hamilton. "It is the abiding which changes only in its affections." — Aristotle. It involves existence, permanence, and active power or causality. "Die Substanz in Raume kennen wir nur durch Kräfte." — Kant. "Substance is action." — Leibnitz. Boschovich reduces quality to force, and substance to centre of force.

Hume, accepting the principles of the then prevailing philosophemes, by a cogent logic drove idealism into nihilism.[1] This brought about a clearing up (*Aufklärung*) in philosophy. Kant awoke from his "dogmatic slumber," and founded the critical philosophy. He gives a "refutation of idealism" which concludes: "The consciousness of my own existence is at the same time an immediate consciousness of the existence of other things without me."[2] Thus he affirms objective reality, but he denies any possible knowledge of things in themselves, noumena, maintaining that we know only phenomena. Hence his doctrine becomes at last a formal, or critical, or transcendental idealism.

The Kantian doctrine was apodeictically resolved by Fichte and Jacobi into absolute idealism, in which this form of monism at once culminated and broke down.[1] Thereupon Comte mercilessly exposed the fruitlessness of speculation, and contemptuously dismissed metaphysics to make room for the positive philosophy.[2] Still idealism lingers in Germany, especially in the modified form of which Schopenhauer was the apostle. "The world," says he, "is merely my representation (*Die Welt ist meine Vorstellung*)." He reduces all existence to force, and this to will; "reality is only an infinitely varied impulse of will," and "the world is one vast will constantly rushing into life (*der Wille zum Leben*)." With this he associated the now popular doctrine of pessimism.[3]

---

[1] "The celebrated David Hume was one of those geographers of human reason who believe that they have given a sufficient answer to all questions raised by pure reason, by declaring them to lie beyond the horizon of our knowledge, a horizon which, however, Hume was unable to determine. Yet he was perhaps the ablest and most ingenious of all sceptical philosophers, and his writings have, undoubtedly, exerted the most powerful influence in awakening reason to a thorough investigation into its own powers." — *C. P. R.*, pp. 462–4.

[2] *Critique of Pure Reason*, p. 166 sq. Subsequently, he says that this is "The only possible demonstration of the reality of an external world." See note by Hamilton, *Discussions*, p. 97, and *Meta.*, p. 648, Am. eds.

§ **137**. Further mention of idealism will be made subsequently (§ 146). Just here we add only that a self-contradiction is chargeable, not perhaps on the doctrine itself, but upon its advocates. The most authoritative with candor admit that we of necessity, by the very constitution of our nature, do believe in the existence of external reality.[4]

---

[1] See close of § 128. The dogmatism of Fichte finally reached nihilism, which is scepticism of all existence. "The sum total," says he, "is this: There is absolutely nothing permanent either without me or within me, but only an unceasing change. I know absolutely nothing of any existence, not even of my own. I myself know nothing, am nothing. Images (*Bilder*) there are; they constitute all that apparently exists; images that pass and vanish without there being aught to witness their transition. I myself am one of these images; nay, I am not even thus much, but only a confused image of images. All reality is converted into a marvellous dream without a life to dream of, and without a mind to dream; into a dream made up only of a dream. Perception is a dream; thought — the source of all the existence and all the reality which I imagine to myself of my existence, of my power, of my destination — is the dream of that dream."

[2] See Buckle, *Hist. of Civ.*, p. 113; and Comte's treatise, translated by Harriet Martineau.

[3] "Qu'est-ce que l'homme? Son savoir n'est qu'ignorance, sa grandeur que bassesse, sa force qu'infirmité, son plaisir que douleur. J'avais lu cela dans Schopenhauer, qui l'avait lu dans Héraclite." — MOUNIER. Cf. PASCAL, *Pensées*, pt. i, art. 7.

[4] See Berkeley and Hume, quoted by Hamilton, *Meta.*, p. 201; and many others in *Reid*, note A, § 1.

They maintain, however, that possibly, or certainly, we are deceived in this by the false testimony of consciousness.[1] That is, what they do believe, they do not believe. To say that "what I am constrained to regard as not me, is only a modification of me, which I, deluded by my nature, mistake, and must mistake, for something different from me," is obviously self-contradictory.[2]

§ **138.** Materialism, the second form of monism, teaches that matter is the only substance. It originated in the fifth century, B.C., with the atomists. The Epicureans adopted it. It was advocated by Lucretius.[3] It has had adherents ever since, though never rising to the dignity of a philosopheme. In modern times the sensualism of Hobbes and Locke has given a materialistic tendency to English thought, but excepting Priestly hardly any of note have been outspoken materialists. In Germany, thorough-going materialism was first avowed by Moleschott in 1852, followed very soon by Vogt and Büchner.[4]

---

[1] See § 102. Calderwood says: "The testimony of consciousness cannot be denied without self-contradiction. He who doubts it relies on the testimony of consciousness for the affirmation of his doubt." — *Moral Phil.*, Int., § 7.

[2] Hamilton well says: "To doubt whether what we necessarily think in a certain manner, actually exists as we conceive it, is nothing less than an endeavor to think the necessary as not necessary or the impossible, which is contradictory." — *Logic*, p. 382. See § 129, note.

"The belief which accompanies consciousness," says Stewart, "as to the present existence of its appropriate phenomena (and this has never been questioned) rests on no foundation more solid than our belief of the existence of external objects. The only account that can be given of this belief is that it forms a necessary part of our constitution, against which metaphysicians may easily argue so as to perplex the judgment, but of which it is impossible for us to divest ourselves for a moment, either in the business of life or in the pursuit of science." — *Phil. Essays*, in *Works*, vol. v, p. 57.

[3] In his poem, *De Rerum Natura*, first century, B.C.

[4] The latter is its popular exponent. His work, *Matter and Force*, which was first published in 1856, has run through many editions, and has been translated. Its point of departure, its basic principle, is: "No matter without force, and no force without matter."

The following may be taken as its creed: "Instinct, passion, thought, are the acts of organized substance. All causes are material causes. In material conditions I find the origin of all religions, all philosophies, all opinions, all virtues, all spiritual states and influences, in the same manner that I find the origin of all diseases and of all insanities in material conditions and causes. I am a creature of necessity; I claim neither merit nor demerit. I feel that I am as completely the result of my nature, and impelled to do what I do, as the needle to point to the north, or the puppet to move according as the string is pulled. I cannot alter my will, or be other than what I am, and cannot deserve either reward or punishment."[1]

§ **139.** The most refined and subtile form of the doctrine is as follows: "Mind is merely the consequence of a certain mode of material organization. It is not a distinct substance, but merely a series of phenomena which are as truly phenomena of matter as the physical phenomena. Sundry brain centres have the function of producing consciousness, or rather, of manifesting the phenomena of consciousness, while manifesting physical phenomena. In these centres the physical series and the psychical series always appear together, the one objectively, the other subjectively; that is to say, the matter constituting a centre has two sides or faces, the objective or physical, and the subjective or psychical. These are in no sense commutable, for the psychical series is merely a subjective shadow that attends the objective physical series.

"A molecule that undergoes a certain chemical change, experiences a sensation. As the one is a mode of motion, so is the other, or rather, they are two distinct manifestations of the same motion. Mental movement of any sort is not at all due to self-determination, but is a movement of the nervous mechanism as to its subjective face. Perception, memory, and reasoning are only the mental side of changes in the brain, and a change of ideas means that the corresponding physical states have been displaced by others."[1] According to this doctrine, brain itself is I.

---

[1] From a work by H. G. Atkinson and Harriet Martineau.

§ **140**. Mind and matter are made known to us by two widely distinct series of phenomena, which we have called the thought-series and the thing-series. The seeming incompatibility of these to inhere in one substance is not sufficient ground for rejecting the materialistic hypothesis. Though I may be unable to conceive of conscious matter, it may nevertheless be actual. The question is not to be settled by my preconceived notions of what may or may not be, but by a philosophical and logical treatment of the facts. If they can be explained on the hypothesis of one substance, then, by the law of parcimony, that entities are not to be multiplied without necessity, this hypothesis is preferable to the dual hypothesis.[2]

---

[1] From Professor Bowne's lecture on "Some Difficulties in Modern Materialism." — *Christian Philosophy Quarterly* for October, 1881.

We may at once observe that materialism, approaching mind from the outside, and interpreting the facts of psychology in the language of physiology, seeks to replace terms of mind by terms of brain. It proposes to identify mental with cerebral functions, and to reduce intellectual action to molecular motion. David Ferrier, an authority in physiology, and a favorite with the materialists, says: "No purely physiological investigation can explain the phenomena of consciousness. We may succeed in determining the exact nature of the molecular changes which occur in the brain-cells when a sensation is experienced, but this will not bring us one whit nearer the explanation of the ultimate nature of that which constitutes a sensation. The one is objective, the other subjective, and neither can be expressed in terms of the other. We cannot say that they are identical, but only that the two are correlated." — *Functions of the Brain*, § 89.

[2] See § 100 and § 82, note. Pascal says: "Quand on prêtendrait que nous fussions simplement corporel, cela nous exclurait de la connaissance des choses, n'y ayant rien de si inconceivable que de dire que la matière puisse se connaître soi-même." — *Pensées*, pt. i, art. 7, § 26.

Hamilton says: "We know nothing whatever of mind and matter con-

All ground for the objection disappears when we find that the conception is not, in some aspects, impossible, nor indeed very difficult. That a living molecule which is warm should feel warm, seems not hard to conceive, especially when we consider that the first is objective, a manifestation to an observer, the other subjective, a manifestation to itself. It would seem harder to conceive that this molecule both attracts and repels at once an adjacent molecule, yet no one questions the fact.

§ **141.** Further mention of materialism will be made subsequently (§ 147), but we remark here, in passing, some objections having greater weight than that just considered. The hypothesis assumes the substantial existence of matter, and reduces to it the phenomena of mind. It entirely ignores the prior and hard problem of philosophy which questions the existence of external reality. At the outset it assigns substance to the thing-series, and so makes an unwarranted assumption.

If we allow that the two series of phenomena are given in equipoise, then the materialist must show why the thing-series should have preponderance. His reasons do not appear. Primarily, in a monist scheme, it would seem as reasonable to claim that the thing-series is an objective phase of mind, as that the thought-series is a subjective phase of matter. But, indeed, it is more reasonable; for objects are known only by their opposition to a subject, the material phenomena only through the mental. The facts of consciousness being

sidered as substances; they are known to us only as a two-fold series of phenomena; and we can justify, against the law of parcimony, the postulate of two substances only on the ground that the two series are reciprocally so contrary and incompatible that one cannot be reduced to the other, nor both be supposed to inhere in one common substance." — In *Reid*, note A, § 2. See also *Meta.*, p. 97. President Mark Hopkins in his Lowell Lectures takes the same ground; and many others. A hundred years ago Dr. Priestly refuted this dualist argument in his work, *Materialism.* See also Herbert Spencer's sweeping and eloquent rebuke in his *Principles of Psychology*, § 268 sq.

known to us immediately and in themselves, and the facts of the external world being known, not in themselves, but mediately, through the facts of consciousness, surely if one series is to explain the other, the thought-series should be applied to explain the thing-series. Hence, in assigning a substratum, it is evident that the thought-series, being first in order of knowledge, has the first claim; and so, in a monist scheme, the logical presumption is in favor of idealism. The materialistic philosophy must, therefore, first dispose of idealism, then, by the law of parcimony, it can claim the logical presumption against dualism. It makes no pretence, however, to any such process, and consequently lacks logical and philosophical warrant.

Materialism assumes that all forces are physical forces, that all causes are material causes. This begs the whole question. For if, by the doctrine of the conservation of energy, each physical antecedent is entirely exhausted by its physical consequent, then each physical consequent is fully explained by its physical antecedent. This shuts spirit out of the circle, allows it no link in the chain of cause and effect, and simply denies its separate substantial existence. But what fact of nature or principle of science forbids the supposition that there are psychical as well as physical forces? In the acknowledged phenomena of the thought-series we have at least as much evidence of the existence and play of force, as in the phenomena of the thing-series. Moreover, it is also a fact of consciousness that certain of the thought-series are the unconditional antecedents or causes of certain changes of the thing-series, and *vice versa*. The claim that force is only of one kind is arbitrary. The assumption is unwarranted.[1]

---

[1] Bain, in a somewhat rhetorical passage, quoted approvingly by Ferrier, says: "It would be incompatible with everything we know of cerebral action to suppose that the physical chain ends abruptly in a physical void occupied by an immaterial substance; which immaterial substance, after working alone, imparts its results to the other edge of the physical break and deter-

Let us add to these philosophic objections, that the logical consequence of materialism is extreme agnosticism. It involves the doctrine of a necessitated will, and reduces man to an irresponsible automaton.

§ **142.** The third form of monism is absolute identity. It appears that a unitarian scheme, starting with the subjective fact of self-existence, and accepting that only as original and genetic, can never get beyond self, and develops into idealism; and on the other hand, starting with the objective fact of material existence, and accepting that only as original and genetic, can never by this path discover self, and develops into materialism. But there are monists who admit the testimony of consciousness to the equipoise of the mental and

---

mines the active response — two shores of the material with an intervening ocean of the immaterial." — *Mind and Body*, p. 131; *Functions of the Brain*, § 88. But by our theory mind and brain act concomitantly, § 143.

Huxley, in his lecture "On the Hypothesis that Animals are Automata," says: "Molecular changes in the brain are the causes of all states of consciousness. Is there any evidence that these states of consciousness may, conversely, cause those molecular changes which give rise to muscular motions? I see no such evidence. If there be none, it follows that our mental conditions are simply the symbols in consciousness of the changes which take place automatically in the organism; and that, to take an extreme illustration, the feeling we call volition is not the cause of a voluntary act, but the symbol of that state of the brain which is the immediate cause of that act." He allows that the thing-series causes the thought-series (though not in the sense of expending energy upon it), but not the reverse.

Carpenter may be quoted in reply: "There is just the same evidence of correlation between nerve-force and that primary state of mental activity we call a sensation, that there is between light and nerve-force; each antecedent being followed by its corresponding consequent. The like correlation may be shown to exist between mental states and the form of nerve-force which calls forth motion through the muscular apparatus. That mental antecedents can thus call forth physical consequents is just as certain as that physical antecedents can call forth mental consequents; and thus the correlation between mind-force and nerve-force is shown to be complete both ways, each being able to excite the other." — *Mental Physiology*, §§ 11, 12. The evidence of correlation between mental and neural forces is stronger than that of correlation between physical forces; for the latter is deduced from observation, while the former is within consciousness.

material phenomena, and do not attempt to reduce mind to matter, or matter to mind. They reject, however, the evidence of consciousness to their antithesis in existence, and maintain that mind and matter are only phenomenal modifications of the same common substance. This is the doctrine of absolute identity.[1]

§ **143.** The advocates of this doctrine rely for proof upon the admitted thorough-going concomitance of mental and material phenomena. There is no mental action, even that commonly reckoned as at furthest remove from physical action, such as a discernment of pure intellect or a gentle monition of conscience, without a corresponding movement of neural matter and a waste of nervous energy; and, on the other hand, there is no normal nerve-stimulus without its corresponding consciousness. This correspondence is also in degree, the increased or diminished intensity of the one being attended by a like change in the other.[2] Moreover, mind and brain develop together. Sensation, reflection, moral sensibility, are gradually evolved, growing as the nerves grow, and as the brain takes shape and organs.[3]

---

[1] Spinoza expresses it pantheistically thus: "Matter and spirit have no separate existence; there is only one substance in the universe, of which extension and thought are the corresponding attributes or phenomena, each correspondent to each." So also Fechner, in *Phys. und Phil.*, p. 258 sq.

[2] "We believe," says Tyndall, "that every thought and every feeling has its definite mechanical correlative, that it is accompanied by a certain breaking up and remodelling of the atoms of the nervous organism." Bain says: "For every mental shock, every awakening of consciousness, every mental transition, there must be a concomitant nervous shock; and as the one is more or less intense, so must be the other." — *Mind and Body*, p. 42.

This admitted concomitance is in opposition to the excessive spiritualizing tendencies of the Platonic school, and of those theological schools that consider the body as a clog, a fetter, a prison-house of mind, and it calls for a modification of both psychological and theological doctrine. Its evidence is to be found in a multitude of observed facts which cannot here be cited.

[3] "For nature, crescent, does not grow alone
In thews and bulk; but as this temple waxes,
The inward service of the mind and soul
Grows wide withal." — *Hamlet*, A. 1, sc. 3.

The refined monist infers from this concomitant variation identity of substance. But logic teaches that when phenomena vary concomitantly, it is proof either that they are related as cause and effect, or as effects of a common cause, and it adds that by this method alone we cannot determine which.[1] Accordingly, since the subjective and objective phenomena vary together, there is a bond of causation between them, yet a doubt remains. But our refined monist does not allow the doubt. On this inductive method alone, holding it to be the only one applicable to the case, he affirms the phenomena to be the effects of a common cause.[2] He goes further, without proof, and affirms that the common cause is the only substance in the case. Had he proved the common cause, the oneness of substance would not follow. The oceanic varies with the atmospheric tide; are they one in substance with their common cause? The admitted concomitance of mind and brain is insufficient ground for holding the identity of substance. It would be hard to find in sober science another example of such an unwarranted, illogical inference.

§ **144.** When we examine this doctrine historically, we find that it is a position of unstable equilibrium. Those who have endeavored to maintain it from a subjective standpoint, have eventually resolved all existence into mind and ideas, and become pronounced idealists. Those who have tried to maintain it from an objective standpoint, have gravitated into a refined materialism.[3] Indeed, it does not seem of consequence

---

[1] See Mill, *Logic*, bk. iii, ch. 8, § 6.

[2] See Bain, *Mind and Body*, ch. 3. Its title is: "The connexion viewed as correspondence, or concomitant variation." Cf. Spencer, quoted below.

[3] The most illustrious advocates of the doctrine in modern times are Schelling, Hegel, and Cousin. They endeavor to maintain it from the subjective standpoint, but eventually resolve all existence into mind and ideas, and are known as idealists.

Spencer declares that "the truth is not expressed either by spiritualism or by materialism, however modified and however refined"; and concludes that "it is one and the same ultimate reality which is manifested to us subjectively and objectively. For while the nature of that which is manifested by what name we call the one substance. If one, it is one that manifests both mental and material phenomena. But it is impossible to maintain their equipoise; for the unavoidable necessity of explaining one through the other brings about a preponderance that quickly reduces the scheme, either to idealism or to materialism.

§ **145.** Dualism teaches that mind and matter, specifically brain, are two co-ordinated but distinct substances, widely differing in kind, indeed, having no quality in common. Matter is the substance in which physical phenomena, those of the thing-series, inhere. Mind is the substance in which physical phenomena, those of the thought-series, inhere. In short, matter is extended substance; mind is conscious substance (§ 50).[1]

---

under either form proves to be inscrutable, the order of its manifestations throughout all mental phenomena proves to be the same as the order of its manifestations throughout all material phenomena." — *Principles of Psychology*, §§ 272–3.

Bain's conclusion is similar. He says: "The arguments for the two substances have, we believe, now entirely lost their validity; they are no longer compatible with ascertained science and clear thinking. The one substance with two sets of properties, two sides, the physical and the mental, a double-faced unity, would appear to comply with all the exigencies of the case. We are to deal with this, as in the language of the Athanasian creed, not confounding the persons, nor dividing the substance." — *Mind and Body*, p. 196.

But again the position has proved unstable, and gravitates in these cases, on the other hand, into materialism. Bain himself calls it "a guarded or qualified materialism, saving the contrast of mind and matter." — *Id.*, p. 140. Spencer, however, denies that he identifies mind with matter, saying, "I do no such thing; I identify mind with motion, and motion is inconceivable by us as in any sense material." But motion is only an accidental property of body, manifest by change of place. That is, mind is a property of matter.

[1] The philosophic doctrine of dualism, or spiritism, originated in the idealism of Plato. Gradually becoming more and more refined by constant disputation, it culminated in the speculations of the scholastic Thomas Aquinas, 1225–74. He maintained that the human soul is a unit and a spirit, in the strictest sense immaterial, the distinction between mind and matter being thorough-going and inerasible. His views received the dogmatic sanction of the Council of Vienna in 1311, they were adopted and enforced by Calvin, and have since prevailed in theology.

Dualism opposes monism primarily on the ground that no hypothesis of unity has explained or can explain the facts, and secondarily, because in every form it leads, logically and historically, to revolting consequences. Holding that an hypothesis of plural entities is necessary to the explanation, it does not violate, but is in accord with the law of parcimony. Inasmuch as the scheme of absolute identity reduces inevitably either to idealism or to materialism, we may omit further notice of it, and confine our attention to these. Some objections to both have been offered already. We now propose to supersede them by citing evidence in favor of dualism.

§ **146**. Beginning, as we must, with a datum of consciousness, we find that the Cartesian "I am" is but a part of the *primum cognitum*,[1] the complete fact of consciousness consisting of essential correlatives, the full dualistic formula being: Both I and another exist. The conclusion reached at the close of § 101 is only another statement of the same principle. If it be accepted as established, the earlier forms of idealism, which it contradicts, are refuted.[2]

---

[1] See § 114, note 2.

[2] Reid, as well as Kant, was roused by the scepticism of Hume (§ 136). He also allowed Hume's logic to be irrefragable, and found that philosophy could be saved only by a reformation of its generally admitted principles. This he applied himself to bring about, and on subjecting them to a new and rigorous criticism, enounced the doctrine of the immediate perception of external reality, or the consciousness of the non-ego.

Hamilton, the best exponent of this cardinal doctrine of the Scottish philosophy, seemingly the only means of escape from idealism, states it thus: "In the act of sensible perception, I am conscious of two things; of myself as the perceiving subject, and of an external reality, in relation with my sense, as the object perceived. Of the existence of both these things I am convinced; because I am conscious of knowing each of them, not mediately in something else, as represented, but immediately in itself, as existing. Of their mutual independence I am no less convinced; because each is apprehended equally and at once, in the same indivisible energy, the one not preceding or determining, the other not following or determined; and because each is apprehended out of, and in direct contrast to, the other." — In *Reid*, note A, § 1.

But this, the usual statement of the doctrine immediate perception, is insufficient. It does not save us from the later forms of idealism with their consequences (§ 136). It must also be established that I immediately perceive body in its essential and objectively existing characters, extension and impenetrability; that it possesses these in the same manner as they are perceived by me; that thus and so far I know the thing in itself; that thus and so far noumena become phenomena. Such is the conclusion reached at the close of § 104. If it be accepted as established, all forms of idealism are refuted.

§ **147.** Materialism, as opposed to dualism, remains to be considered. In §§ 99, 101, it is maintained that in perception, in our consciousness of material phenomena, in the action of the object and passion of the subject, there is an opposition of existence. If I am truly conscious of this opposition of an object, then I, the subject, and that object are two distinct beings, and I immediately perceive or am conscious of the existence of a positive non-ego. This conclusion, reached from the subjective or psychological standpoint, is expressed in the proposition: The immediate object in perception is consciously not I.

In §§ 5, 21, it is maintained that the material object of consciousness in perception is enorganic; that it is the excited sensory or brain itself. For the immediate object of perception must be its proximate cause. Tracing the chain of cause and effect inward, we discover that the final physical effect antecedent to consciousness is a certain excited state of the sensory, and we conclude this to be its proximate cause, and hence the object immediately perceived. This conclusion, reached from an objective or physiological standpoint, is expressed in the proposition: Brain itself is the immediate object in perception.

Now combining the subjective fact with the objective fact, we have: The immediate object in perception is consciously not I; but brain itself is the immediate object in perception; hence, brain itself is consciously not I.

If this conclusion, which necessarily follows from the premises, be true, then materialism is false; for it concludes that brain, the material substance last in the chain of physical causes, and so standing nearest to consciousness, is a non-ego.[1]

From this, further, it is an immediate inference that I myself am not matter, or, in other words, that subjective phenomena are the phenomena of an immaterial substance. If this be allowed, dualism is established.[2]

---

[1] Might it not be said that some centre or organ of the brain is ego (see close of § 139), while others are non-ego, or that certain molecular centres constitute the ego, while adjacent molecules are the non-ego? Hardly; for how there could be that "extreme contrast or antithesis" (Bain), that "difference transcending all other differences" (Spencer), between one mass or molecule of neural matter, and another mass or molecule of neural matter, is out of reason. Yet this seems the only alternative hypothesis.

The opposed views, materialism and dualism, may be crudely illustrated as follows: We figure to ourselves "a double-faced unity" as having its sides, subjective and objective, concave to each other, thus: (s. o.); but a single-faced duality requires an antithesis or opposition of faces, faces convex to each other, thus: s.)(o., and so, necessarily, faces of a duality.

[2] Philosophers quite generally rely upon the unity of mind (see § 77) in consciousness, as opposed to the plurality of material things, for proof of dualism. *E.g.* Lotze says: "The fact of the unity of consciousness compels us, in the explanation of the intellectual life, to put in the place of visible substance a supersensuous essence as supporter of the phenomena, and to suppose that there is a completely indivisible unity in the subject which exercises the comprehending activity of consciousness." — *Mikrokosmus*, i, 72, *et al.*

In this connection let us quote from Ferrier, as follows: "The brain, as an organ of motion and sensation, or presentative consciousness, is a single organ composed of two halves; the brain as an organ of ideation, or representative consciousness, is a dual organ, each hemisphere being complete in itself. When one hemisphere is removed or destroyed by disease, motion and sensation are abolished unilaterally, but mental operations are still capable of being carried on in their completeness through the agency of the one hemisphere. The individual who is paralyzed as to sensation and motion, by disease of the opposite side of the brain, is not paralyzed mentally, for he can still feel and will and think, and intelligently comprehend with the one hemisphere. If these functions are not carried on with the

§ **148.** Mind and brain, then, are two distinct substances, having no quality and no law in common, yet in our present state they are so connected and correlated that neither is capable of its functions without the other, actual consciousness being known to us only in this concrete relation.[1] In sense-perception, or in the presentative consciousness in general, the cerebral or sensorial excitement is the cause of the mental excitement; for in this case I am consciously a patient. In voluntary memory, imagination and thought, or the representative consciousness, the mental is the cause of the sensorial excitement; for in this case I am consciously the agent. The sensorium, then, is the place where physical force directly causes certain states of consciousness, and where mental energy enters the physical sphere.

§ **149.** The mind cannot be assigned to any bodily organ as its seat. The famous expression "seat of the soul" is utterly meaningless to any but a materialist.[2] Locality can

---

same vigor as before, they at least do not appear to suffer in respect of completeness." — *Functions of the Brain*, § 88. Brown-Sequard even more fully and emphatically maintains that we are possessed of two distinct brains. See his article in *The Forum* for Aug. '90. This opinion of eminent physiologists, compared with the generally admitted unity of mind in consciousness (*e.g.* the inability to carry on two distinct trains of reasoning on different subjects at once), disfavors their hypothesis of materialism, and favors that of a single, regnant, spiritual entity.

[1] See § 143. It may be asked: Then, at, and after death, what? Psychology has no answer to that question. Philosophy, perhaps, has grounds on which to conjecture an after life. Revelation only brings life and immortality to light. It is conceivable that disembodied spirit may be enabled to perform its proper functions, but it should be observed that, at the resurrection, "God giveth it a body even as it pleaseth him, and to each seed a body of its own. . . . It is sown a natural body, it is raised a spiritual body." — 1 Cor. 15: 39, 44.

[2] Aristotle taught that the soul is "all in the whole and all in every part." — *De Anima*, i, 5, 31. Probably he means, without reference to body, that the entire soul thinks, feels, and wills (see § 78), a strong expression of its essential unity; for in the same treatise he excludes place and motion from the exercises of mind. The formula was adopted, however, by the Neo-

no more be attributed to mind than extension; either reduces mind to matter. Mind in itself bears no relation whatever to space. To ask where the soul is, or to say that it is here, or there, or that it pervades the brain, or the nervous system, is sheer nonsense. If it have place either it is a mathematical point, or it has shape, divisibility, and size; length, breadth, and thickness; in short, is matter. Hamilton says very rightly: "It has not always been noticed, even by those who deem themselves the chosen champions of the immateriality of mind, that we materialize mind when we attribute to it the relations of matter. Thus we cannot attribute a local seat to the soul without clothing it with the material properties of extension and place, and those who suppose this seat to be but a point only aggravate the difficulty."

platonist Plotinus to express the relation of mind to body. See Ueberweg, *Hist. Phil.*, §§ 68, 88. It was so used by Augustine: "*in toto tota est.*" — *De Trinitate*, vi, 6. This application is approved by Hamilton and others. *Meta.*, pp. 272, 356; Mansel, *Meta.*, p. 86. See an allusion to it in Milton, *Samson Agonistes*, line 90 sq. Thus interpreted, the formula affirms the omnipresence of mind in body, and has been adopted in theology as descriptive of the omnipresence of the Deity.

Others affirm a "dynamical presence" in the entire organism. So Lewes: "The position of the centre of gravity is a continually shifting point. The attitude of the personality is similar, a personal centre." — *Problems of Life and Mind*, 3d series. Anticipated by Chalybäus, in *Zeitschr.* von Fichte, xx, 69.

Others, again, regard mind or the soul as diffused throughout the nervous system, pervading it. So Fischer, *Metaphysik*, *Sitz der Seele*, § 8; and Porter, *Hum. Intell.*, § 129. This is the old ghost notion belonging properly to the primitive races, by whose crude thinking the notion of a strictly immaterial spirit was unattainable. See Taylor, *Primitive Culture*, vol. i, p. 387.

Descartes held "the seat of the soul" to be the pineal gland. — *De Passionibus Animæ*, art. 31 sq. Cf. *Meditationes*, ch. 6. Laromiguière takes a similar view, and compares the soul to a spider at the centre of its web. — *Leçons*, t. ii, p. 251 sq. Descartes elsewhere says: "I have no need of place." — *On Method.* pt. iv. Says Kant: "The soul is an absolute unit, and as it is no object of outer sense, it is immaterial; and, though it is present and operates in space, it does not occupy space, and has no special place in body." — *Vorlesungen über Metaphysik*, p. 133.

PART THIRD.

MEDIATE KNOWLEDGE.

CHAPTER I.

REPRESENTATION.

§ 150. Representation is mediate cognition, or more fully it is knowledge of one or more remote objects through a present medium which resembles, or otherwise stands for them.

In presentation there is but one object or thing known, and this object is intuitive. In representation there are two objects; the proximate representing medium intuitively known and the remote represented object-object mediately known. The medium is either some external object, or a mental image, a subject-object. In either case this medium or representing object, considered irrespectively of what it represents, is itself an intuitive presentative object. Representation, then, is a presentation with something superadded, namely, the reference to a remote object.[1]

In the presentative consciousness, a thing is known in itself. This knowledge involves the fact of the existence of the object. In the representative consciousness, a thing is known in or through something not itself. This knowledge involves only the possibility of its existence. The presented object is, therefore, always real, the represented object may be real or ideal, but must at least be logically possible, *ens rationis*, that is, must involve no contradiction.

---

[1] See § 92 sq. Immediate and mediate cognition should not be confused with immediate and mediate inference. The one is psychological, the other logical. Mediate cognition is through a presented representing medium, mediate inference is through a middle term to a conclusion. Yet the results of logical inference are always entertained representatively, so that whatever is inferred is also mediately cognized. The direct reference of an object to a class, a logical process, is sometimes called mediate knowledge, since the object then becomes known through or by means of its relation to other objects. This, too, should be set clearly apart.

In presentation the object is present to me here and now, in representation the object-object is not present but remote. The one is knowlege of what is present in time; the other, of what is past. An immediate, conscious knowledge of what is past is impossible; for to know the past immediately, it must be known in itself, and therefore as now existing; but the past is a negation of the now existing.

Presentative knowledge, being of the really existing here and now, is original and certain; representative knowledge, being of the past, or the possible, the not here or not now existing, is derived and uncertain. The degree of assurance or belief in a representation may be any but the highest; it can never attain the certainty of intuition, of consciousness.

Finally, in presentation the object is always an individual, either an external thing perceived, or a state of mind self-perceived. In representation the remote object may be either an individual, or a plurality of individuals united in a class, and known by means of a concept or general notion.[1]

§ 151. Representative cognition is distributed into three special modes. When the medium represents some object previously known, which is thus recognized, the act is called a memory. When the medium is a factitious mental image representing what is logically possible but merely ideal, the act is called an imagination. When the medium represents an abstract unity, or a plurality reduced to unity in a general notion or concept, the act is called a thought.

---

[1] Our science is indebted to Hamilton for the first clear and distinct statement of this fundamental and important distinction. See especially in *Reid*, note B, § 1. In the Leibnitzian and subsequent philosophemes of Germany, the term representation (*Vorstellung*, which is, rather, presentation) is used with vague generality for any cognitive act considered in relation to the thing known. By Kant it is used to include, as species, intuition, perception, and even sensation, as well as memory and thought. His ambiguities and obscurities arise largely from lack of the stated distinction. Hamilton, however, went so far, on the other hand, as to identify representation with imagination, thus excluding even memory. See *Meta.*, Lec. 32. In accord with good authority, we take it to be generic, inclusive of memory and thought.

From what has been said it is evident that representation is conditioned on presentation. We add that each of the specific powers of representation conditions that following it in the order named; memory conditions imagination, and imagination conditions thought; and all are conditioned on pure reason. But let us recall that no given total mental act or state consists of any one of these alone (§ 78). It is always an intricate complexus, in which these several specific activities may be distinguished as factors, and comprises, moreover, feeling, desire, and volition.

The distinction between the presentative and the representative faculties is not identical with the familiar distinction between sense and intellect. The intellectual faculties include pure reason, sometimes called pure intellect, *νοῦς*, and this we have classed under presentation.[1]

§ **152.** As the medium is the characteristic feature of representative states, let us consider it more particularly. It may be either an object perceived, or a mental image of an object of perception.

That objects perceived are often representative is an obvious and familiar fact. The portrait of my friend represents him, and serves as a medium by and through which I contemplate his actual appearance. All pictures are thus representative; so also the drama, and the fine arts generally, indeed whatever is imitative.[2] It is not that an imitation is merely suggestive, and on the principle of association directs our thoughts. It does this no doubt in the first moment; but instantly it becomes representative, and through it we contemplate a remote object. Again in studying geometry, we draw a figure on the blackboard. The proposition demonstrated by means of the figure is true, not of the thing perceived, but of what it represents, that is, of all conceivable figures of that kind; for in the demonstration we use only such properties as are common to all. We contemplate in the figure perceived these properties, and through it we think what is true of all members of the class. This mode of representation may be called the mimetic or exemplar.

---

[1] See § 76. Intellect, from *inter*, among, between, and *legere*, *lectum*, to gather, to collect, to read. It apprehends more than is seen; it reads between the lines.

[2] The literal observance by the Saracens of the second commandment gave

But in order to representative cognition it is not necessary that the medium should resemble the object it represents; it may be merely symbolic.[1] The national flag represents one's country or government, and excites patriotic feeling. A crown represents royalty, a sceptre authority, a throne power, a triangle the Trinity. Algebraic symbols and signs represent certain quantities and their relations. Words, either seen or heard, symbolize things, and through the word we think the thing. So also signals of all kinds. There is a wide difference between portraiture or descriptive art, and the symbolic art which produces, for example, a painting of Justice or a statue of Psyche; but it is plain that each equally furnishes media for representative cognition.

---

rise to a style of decorative art not representative, and called, after them, the arabesque. Like music, it does not *mean* anything, but is in itself beautiful.

That is simply negative; but what is to misrepresent? Shylock, posed as a typical, representative Jew, is a misrepresentation. So say the Jews. The portrait is not a likeness. It was drawn by the master when there were no Jews in England. It was the outcome of tradition, spite, and tyranny. Shakespeare never saw a Jew. In like manner they denounce Isaac of York as a misrepresentation. They claim Sir Moses Montefiore and Baron Hirsch as true representatives of the modern race.

[1] Ophelia's flowers were representative; but Peter Bell's primrose "a yellow primrose was to him, and nothing more."

§ 153. The medium in representation may also be, and usually is, a mental image, an idea. The power which mind has of forming mental images of its past experiences has often been mentioned. It belongs to the essential constitution of mind, is an element in all intellectual exercise, and a thorough knowledge of it is of the highest importance in psychology. The power is unique, peculiar, and therefore indefinable and indescribable, but every one is familiar with it in his own consciousness.

I see a book lying before me, and apprehend it merely as an object of perception. Now I shut my eyes. I no longer literally see the book, it is not now depicted on my retina, but I have a mental image of it, I still see it with "my mind's eye." Yesterday I was angry. To-day I muse, I meditate upon my anger. I form an image of it which I contemplate. I have just read a vivid description of the battle of Waterloo. I reflect upon it, and have formed by aid of the description an image of the scene, its exact military movements interweaving with its noisy confusion and horror. Our minds are constantly occupied, or rather engaged, with such images or ideas representative of remote objects.[1]

The mental image has no existence apart from the mental act. I image a centaur. What is this centaur? It has no externally real, but only an ideal existence. It is only an image, and as such is an indivisible mode of mind. The cognition and its object are in fact identical. As relative to the mind knowing, it is called a cognition, an act of knowledge, an exercise of the imaging power, etc.; as relative to the externally unreal but conceivable possibility which it represents, it is called a representation, a subject-object, an image, an idea, etc. But the act and the object are the same.

---

[1] The word *idea*, introduced into philosophy by Plato, worthy of all honor because of its own soft beauty, its rich setting, its antiquity and its paternity, has been and is greatly abused, being most frequently mispronounced by the vulgar, and constantly misapplied by the specialist. See its lamentable history detailed by Hamilton, in *Reid*, note G, p. 925 sq.; and in *Discussions*, p. 75, note. Cf. Trench, *English Past and Present*, p. 154. Hamilton pronounces it unfitted for scientific use. But we cannot spare it, and shall use it legitimately, as strictly synonymous with mental image, and so representing an individual. Let it not be confused with the concept, which also is representative, but is a general notion, *i.e.* applicable to a plurality of individuals.

Seneca marks the distinction between *ἰδέα* and *εἶδος* thus: When a sculptor hews a statue of Venus, she is his *ἰδέα*; the statue is the *εἶδος*, the idol, or marble image. The *ἰδέα* is out of and before the work, the *εἶδος* is in the work.—*Epist.* 58, §§ 15–18. So Milton:

> "God saw his works were good,
> Answering his fair idea."

§ 154. We say these images are formed by the mind, are of the mind, etc. To say, as is quite common, that they are in the mind is misleading. We are very apt to think of them as literal images, as little miniatures or models or pictures of the things they represent, very like them on a small scale, and located in the mind or brain, entirely apart from their originals. Images, however, being mental modes, neither shape, nor size, nor place can be attributed to them. The shape, size, and place they seem to have are identical with those of the thing represented. Where is my image of the book on which I shut my eyes? Out there on the table. Where is my image of Waterloo? In Belgium. Where is my image of the celestial sphere? In the heavens, and as vast as they. Where is my image of yesterday's anger? Nowhere. It is referred to past time, but not to place, since no mental affection can have locality. It is obvious that figure, size, place, etc., are qualities of the thing imaged and not of the image itself. They are merely represented, as truly so as the color, material, etc., of the originals. We might as well say that the image has actual color, as to say that it has actual place.

§ 155. Mental images are always sensuous, that is, they represent objects of sense, external or internal, given in some former experience. They consist of, or are constructed, so to speak, from materials collected by experience. In this view, we may say that the image re-presents, that is, presents again, what has already been given or presented; so that what was formerly cognized is now recognized. I cannot image what I never experienced. Even the most bizarre imaginings are combined, like the centaur, out of fragments of experiences. I cannot image a logical absurdity. A biangular figure is non-sense.[1]

Moreover, a thing is always represented as the object of the sense originally perceiving it. The sound of a trumpet we represent as assailing the ear; its brazen color, as dazzling the eye; its surface, as smooth to the touch, etc. These images of various percepts combine, however, in one complex image, in a single representation of a thing. It should be noted that though visual images are so constantly present and so vivid that the language of this subject is largely derived from them, yet we form as well images of sounds, of tastes, of odors, of tactile and muscular impressions, of visceral pleasure and pain, and of objects of self-perception.

§ **156.** Images are always representative. An absolute image is a contradiction, for the image is essentially relative. It always stands for, or is vicarious of, a remote object, one either real, or at least logically possible.

Representation by an image, like representation by an object, has two modes; the image is either an imitation or a symbol. I can represent a horse by an image of one standing before me, an image of myself as an observer being perhaps always a part of the total representation. I can image a triangle representing primarily a real figure, and secondarily all possible triangles. In these cases the image is ideally mimetic or exemplar.

---

[1] At first glance these statements may seem inconsistent with the theory of pure ideas already discussed at length, pt. ii, chs. 6, 7. But it should be observed that by pure idea is meant an idea of a pure or non-sensuous object, *e.g.* space. Such an object can be entertained only symbolically, through or by means of some sensuous, representative, mental image or idea. See especially § 131.

I cannot thus image the Chinese Empire; it is too complex. I cannot image virtue, or any other abstraction not a percept of sense. But I entertain these cognitions by means of images symbolical of them. The symbol may be merely the name, which I image as heard, or as seen in print, which then represents primarily the real sound or print, and secondarily the thing or things of which it is the name.[1]

---

[1] "The product of the representative power, or the object which the mind creates and apprehends in memory and imagination, has been the occasion of much confusion of thought, and not a little controversy. Scarcely any single topic has been more vexed in ancient or mediæval philosophy, than the nature of ideas or representative images. As the term *idea* in the English language is applied to the widest possible range of objects, so these controversies either include or trench upon almost every possible question in metaphysical philosophy, beginning with the images or species, material or quasi-material, that were supposed to be given off from every object perceived [see Ueberweg, *Hist. of Phil.*, § 25], and ending with those eternal ideas which Plato and his followers hold to be the archetypes of all created beings, and which they even hypostatized into actual and almost divine agents. These controversies and questions respect ideas of perception, of memory, of imagination, and of thought — ideas *a posteriori*, or ideas of experience, and ideas *a priori*, or ideas that are original and necessary. But to all these the ideas of the memory and imagination have a very close relation, and hence a just determination of their real nature will go very far toward an accurate understanding and a satisfactory solution of the questions and controversies which concern the remainder." — PORTER, *Hum. Intell.*, § 224.

CHAPTER II.

MEDIATE PERCEPTION.

§ **157.** Perception taken strictly is immediate. Each sense has its special percept, the inner sensory excited in a special manner. Sight and touch make a conscious reference of their percepts to space, thus furnishing a consciousness of extension. In resistance to voluntary locomotion is given the existence of an outer world. These results of the analysis of perception are in themselves very meagre, but they constitute the sufficient foundation of knowledge. From them and their combinations, we make inferences, and combine inferences with inferences, and thus attain a detailed knowledge of the material universe.

This inferred knowledge is in certain cases so clear, exact, and reliable that it seems to be direct conscious perception. We seem to see directly the house out yonder, to hear the bell and the birds, to smell the flowers, to feel the fanning breeze, and the firm ground beneath our feet.[1] But each of these is a complex total involving a percept as one element, all other elements being the results of inference. Since the percept is a vivid element, and since the whole is usually esteemed simple, it is commonly spoken of as a thing perceived.[2] We should discriminate, however, between the primary percept and the inferred matters associated with it. These supplementary cognitions are mere images or mental representations, and may fairly be called represented perceptions, or secondary perceptions, or still better, mediate perceptions. The process by which they are obtained is usually termed the education of sense, and hence they have also been called acquired perceptions, which name is sometimes, though inaccurately, understood to imply that the senses acquire power to perceive more than their original percepts.

---

[1] "This universal and primary opinion of all men is soon destroyed by the slightest philosophy. The table which we see seems to diminish as we remove further from it; but the real table which exists independently of us suffers no alteration; it is, therefore, nothing but its image which is present to the mind." — HUME, *Essays*, vol. ii, p. 154.

[2] See § 97 and its notes.

§ **158**. Let us take a simple example, and then attempt a general explanation. An orange, a thing we will suppose new to me, is placed in my hand. I perceive by handling that it has a rough surface, that it is spherical, solid, and heavy. By sight I simultaneously perceive a yellow color, mottled and shaded, having a circular figure. Now I identify the rough sphere with the colored circle; for as I move it with my hand, the pictorial aspect changes concomitantly with the tactile and muscular impressions, and I infer that they have a common cause. What I see is what I handle; and I not only attribute the perceived color to it as the cause, but I project the color upon that outer thing. So also, what I smell or taste is the same thing that I handle and see.

If next day I should see on my table a circular yellow figure, mottled and shaded, I would recognize the figure and color, and attribute to the thing sphericity, solidity, weight, roughness, flavor, etc. Combining what is presented by sight with what is thus represented by images, I would recognize the whole as an orange; and because the visual percept is the given and most obtrusive element in this complex cognition, I would say I see an orange.

§ **159**. Now, in general: That the change in my consciousness in case of a single percept, is caused by something, this I intuitively know. When two or more percepts of different senses occur, when the impressions are simultaneous and their variations concomitant, I inferentially attribute these impressions to the same thing as their cause, regarding them as qualities of that thing, that is, as powers belonging to it, and capable of producing these effects in me. Thus I assemble upon one thing or substance as one object of cognition the various qualities perceived, and it becomes as completely known as is possible by sense.

Secondly, in case of a similar set of experiences, I infer inductively that the cause is the same or similar, and this constitutes recognition. Soon I go so far as to hazard the general induction that whenever I experience such effects they arise from the same or a similar cause.

Thirdly, having observed that a certain set of qualities accompany each other, I regard each as characteristic of the thing. Now when any one is experienced as a percept, I infer the presence in the thing of the rest, and supply them to it by a mental image.

Finally, these experiences and inferences having been often repeated, the several qualities become associated in the mind with each other, so that upon the presentation of any one of the distinctive percepts, the rest are suggested immediately, that is, without any renewal of the process of inference, and the complementary image or images are at once supplied.

Such, in general, is the genesis of mediate perceptions. They are evidently logical judgments or thoughts, retained in memory by association with percepts. Therefore, it should be particularly observed that mediate perception is not at all a distinct, special faculty of mind, but a combined exercise of several faculties.

§ 160. It should further be observed that our senses, strictly taken, never deceive us. When we consciously perceive a color, a sound, an odor, it is impossible even to conceive that we have mistaken something else for color, for sound, for odor. A jaundiced man seems to see all things tinged with yellow. We may easily convince him that the things are not yellow, but it is impossible for him to doubt that he perceives yellow. A ringing in the ears we may take for a distant bell. We mistake about the bell, but not about a sense-perception of sound.[1]

But the mediate process of acquisition described above involves at least one inference from effect to cause. This induction is liable to the fallacy called "plurality of causes." A variety of causes may produce indistinguishable effects. The sound by which I am affected, and which I judge to be caused by a steam-whistle, may in fact be caused by a trumpet. The doubtful induction is a source of error or delusion in our acquired perceptions, and we pronounce our senses untrustworthy. It is not, however, the sense that errs, but the judgment. Now in every case of illusion, and indeed whenever delusion is conceivably possible, the matter is not given, but judged; is not presented, but represented.[2]

§ **161.** Let us remark and illustrate the final step in the genesis described above (§ 159). When a number of percepts have become closely linked by association, the experience of any one seems to carry with it the experience of the others. Thus one sense apparently acquires power to perceive qualities of objects that are originally given by other senses. For example, an orange looks rough, an apple smooth, gloss being an accepted sign of smoothness.[1] Obviously this apparent transfer of percepts is a mediate judgment, a given percept being a sign of the presence of other perceptible qualities, which are accordingly represented. To discriminate in a total complex cognition the elements that are strictly presentative from those that are representative, we make use of the criterion described in § 69.

---

[1] See Leibnitz, quoted in § 69, note. Says Kant: "Wahrheit oder Schein sind nicht im Gegenstande, so ferne er angeschaut wird, sondern im Urtheile über denselben, so ferne er gedacht wird. Man kann also zwar richtig sagen dass die Sinne nicht irren, aber nicht darum, weil sie jederzeit richtig urtheilen, sondern weil sie gar nicht urtheilen." — *Kritik der r. V.*, p. 238.

[2] Delusion believes something false to be true; it attributes to a fallacious appearance objective reality. Illusion occurs when one is not actually deceived, yet cannot resist an impression known to be false in fact, and a mere subjective affection. Delusions are what Bacon calls idols of the den (*idola specus*, § 220). A deep pool of clear water looked at aslant seems shallow, and if I take it to be shallow, this is a delusion. My walking-cane put halfway and aslant in the water seems crooked; but since I know it to be straight, this is merely an illusion. The pretty story told by Pliny of the contest between Zeuxis and Parrhasius recites cases of delusion. The mirage of the desert is to the ignorant a delusion, to the informed an illusion. Dreams are delusive. Hallucinations are abnormal, and either illusive or delusive; *e.g.* a crazy beggar thinks himself a king, and in his rags sees robes. See below, § 195, note.

§ **162.** It would be needless to consider the subject further, were it not that there are certain cognitions relative to space and extension in space, and given only in connection with voluntary locomotion, which present peculiarities and difficulties requiring special examination.

---

[1] Strictly, I do not see, but judge them to be rough and smooth, and these qualities are represented as felt by the fingers. See § 155, second paragraph. In such case sight seems to have acquired power to perceive qualities known only to touch. On the other hand, those who have become blind are sometimes able to distinguish the colors of cloth by touch. Those born blind, however, know nothing about color. Locke tells of one who on handling scarlet cloth said it felt to him like the sound of a trumpet. — *Essay*, bk. ii, ch. 4, § 11. Beethoven, after he became quite deaf, would play the organ in the dark, and greatly enjoy the music. By touch, or rather by manipulation, he seemed to perceive sound.

Further illustrations: When I perceive a certain fragrance that suggests a rose, I instantly supply by an image its visual aspect, and perhaps a tactile feeling of its thorns. Without discriminating what is presented and what represented, I say I smell a rose. So we judge of viands by smell. I do not see the table before me, but a colored figure which is to me the sign of a table. The mountain path looks wearisome, a muscular percept which I represent in connection with the visual aspect of the path, and judge to belong to it. We connect many objects with the sounds they emit. The quality of a musical note enables us to recognize the instrument, and we supply a visual image of it. We recognize animals by their cries, and a friend by his voice, cough, or footfall. By tapping a barrel, we measure its contents. By their ring we discriminate stone, wood, glass, iron, pottery, and also base from good coin, when in this case no sense except hearing would perceive a difference.

We have found that none of the senses proper give us a knowledge of the existence of extra-organic or outer things, and concluded that this is given only in connection with the tactile and muscular senses by voluntary locomotion or manipulation (§§ 105, 106). It follows that our knowledge of outer things as they really exist in space, as to their number, shape, direction, size, distance, locality, etc., can be given directly only by or in connection with the same energy.

Since a percept can be represented only in the sense originally giving it, *e.g.* a color as seen, a sound as heard, etc. (§ 155), so also these cognitions arising in manipulation or voluntary locomotion can be truly represented only as in that act. Nevertheless they seem to be direct perceptions of sense. Sight being keenly perceptive and also cognizant of extension, they are habitually associated with its exercise. We shall therefore examine them more especially, as mediate or acquired perceptions of sight.

§ 163. The real unity or plurality of objects in space is known directly and originally only in manipulation. We commonly suppose that we directly see a single object to be one thing. What we consciously see is only a colored figure on the field of view. But things may not be as they appear in this field. A single thing seen by one eye, may be apparently two.[1] Also the rays from two or more objects may be united so that we shall see but one. If we doubt, we handle.

In binocular vision a single object is seen as one, although there are two retinal pictures of it. This is not because it is one, but because the double picture is associated with the judgment of one thing, known to be one by handling.[1] On the contrary, the stereoscope presents two objects, but they seem to be one, because the lenses cause the pictures to fall on associated parts of the retinas. Whenever we have doubt of physical integrity or suspect duplicity, we take the matter in hand, and test it by a grasp. Optical illusions in general show that the unity or plurality of things is not presented in vision, but represented in manipulation.[2]

---

[1] If we make two pin-holes in a card less than one-twelfth of an inch apart, and, closing one eye, look through them with the other at a pin, we see two pins. Iceland spar doubles a hair-line; and the well-known "multiplying glass" makes many coins of one.

§ **164.** The geometrical solidity or shape of outer things is not directly perceived, but only judged of by the eye.

---

[1] Wheatstone holds that unity in binocular vision is an inference from the mental combination of the two retinal pictures. Some physiologists have explained it by supposing a special provision in the structure of the organ. See Müller, *Physiology*, pp. 1197, 1205; also Carpenter, *Physiology*, p. 917. Lotze explains it by his theory of local signs. Various views are held by the physiological psychologists. See Ladd, *Elements of*, p. 420 sq.

If the forefinger be held vertically a foot from the eyes, and a pencil a foot beyond, then on looking at the finger I see also two pencils, and *vice versa*. If I squint, all objects depicted on "the yellow spot" (*macula lutea*, the central and most sensitive portion of the retina) seem double. One whose strabismus has been corrected has double vision. For example, every road forks before him. The illusions continue until gradually he forms new judgments and habits of sight. These facts seem favorable to Wheatstone's view, which we have adopted. On squinting, see Helmholtz, *Physio. Optik.*, Fr. tr., p. 882.

[2] Nor is the unity of an outer thing discernible by touch alone. A pea touched by the forefinger certainly seems single, just as when seen with one eye. If touched by the fore and middle fingers, it still seems one, as when seen with both eyes, and for the similar reason that simultaneous contact with the adjacent sides of these fingers has long been an accepted sign of a single body. Now let the middle finger be crossed over the forefinger, and the pea placed between their tips; I distinctly perceive two, as when I squint, and for the similar reason that contact with the opposite sides of these fingers usually indicate two things. The impression is aided, no doubt, by the fact that surfaces concave to each other are a usual sign of unity, and surfaces convex to each other (apparently so in this case) are a usual sign of duplexity. This childish illusion, which interested and was discussed by Aristotle, shows that unity is not, as commonly supposed, directly perceived by touch. It is inferred, a mediate perception, given originally in voluntary handling, sometimes called active touch.

The field of view may be regarded as a plane at right angles to the optic axis. That the eye perceives the two dimensions of figure as projected on this plane is obvious, but we must remember that this figure is determined by the retinal picture, and is not at all the superficial figure of any outer thing (§ 19). A circle seen aslant depicts an ellipse, and it is an ellipse that is actually seen, and not a circle, though we may mediately judge it to be in reality a circle. The real figure of the outer thing is known originally only by manipulation.[1]

The third dimension, since it does not at all exist in the picture, the eye does not find there; and though we may seem to see it, yet is it merely inferred from certain signs, certain pictorial aspects, which we know, by experience in handling under the eye, that solid bodies present.[2] Thus a sphere is actually seen as a circle, but the shading of its surface is a sign by which from experience we judge, and say we see, a sphere.[3]

In binocular vision we have, besides the shading, yet another means of judging geometrical solidity or shape. In looking at a thick book, for example, lying on my table, there are not only two pictures, one on each retina, but these pictures are different, since the book is seen from different points of view. Knowing from experience that the difference is produced by a solid body, I seem to see a solid, I seem to see the third dimension. It is, however, merely represented, and the judgment involved is called the stereoscopic judgment.[1]

---

[1] Volney observed, in a case of couching for cataract, that the patient, who was a good geometrician, not only distinguished plane figures as different, but also correctly named the circle, the triangle, etc. But on being asked how he was enabled to do this, he replied that he tried to think how they would feel if he should pass his fingers over the outline.

[2] "The 'old psychology' was accustomed to hold that we cannot perceive the third dimension with the eyes. This is undoubtedly erroneous. Depth and distance are immediately perceived by sight." — LADD, *Outlines of Physiological Psychology*, p. 339. We quote this remarkable assertion merely to show that other opinions are entertained.

[3] The sun and moon, and the planets as seen through a telescope, being destitute of this shading, appear to be flat discs, though we know them to be and think of them as spheres. The shading is often exhibited on a flat surface, as in good frescoes, so skilfully as completely to deceive us.

The physical solidity of outer bodies is known originally in their resistance to voluntary locomotion. Mere contact is usually an accepted sign of a physical solid. If we doubt, we apply pressure as the test.[2] Opacity is also a sign. But to both touch and sight physical solidity is a mediate and acquired perception, and occasionally they betray our trust.[3]

In all cases of suspected error in any of these cognitions originally given in voluntary locomotion, and acquired as mediate perceptions by the other senses, we almost instinctively have recourse to their source; we test them by handling. This is why children and uncultivated people are so strongly disposed to handle whatever they see. They show thereby a lack of culture, it is true, but it is an indispensable part of the process of culture.

---

[1] From *στερεὸς σκοπεῖν*, to see a solid. The pretty illusions of the reflecting and refracting stereoscopes of Wheatstone and Brewster, which supply to vision the requisite conditions, are familiar, and prove the mediate character of this cognition.

Molyneux asked Locke whether a man born blind could on receiving sight distinguish between a cube and a sphere by the eye alone. The question has been much discussed. The answer is that he could distinguish the projected plane figures as different, but could not know in them a cube and a sphere. — Locke, *Essay*, ii, 9. Nunneley, *On the Organs of Vision*, p. 31 (1858), describes a case of couching with careful observations. See also Naville, *Revue Scientifique*, p. 943 (1887). The oldest but most famous case of Cheselden is detailed in *Philosophical Transactions* for 1728, No. 402. See it quoted by Hamilton, *Meta.*, p. 391 sq.; and, with other cases, by McCosh, *Psychology*, vol. i, p. 45 sq. All the observed facts in these cases confirm the view we have adopted.

It is well worth noting that the giving sight to a man born blind, recorded in John 9, was more than a physical miracle. He received not merely a sense, but an educated sense, such as took Cheselden's patient many months to acquire.

[2] See Luke 24 : 39; and John 20 : 24–27.

[3] For example, we sometimes mistake a panel mirror for an open door, and attempt to pass through.

§ **165.** The perception of the direction of objects is a mediate perception. The terms right and left, before and behind, above and below, refer to my own position. They are the names strictly of relations, and mere relations of things are not at all objects of sense. The knowledge is given in the movement of my limbs requisite to reach things, or in the movement of my eyes requisite to see them. Upon this experience rests the judgment of direction.[1]

The tensions of the small muscles that move the eyeball furnish a very delicate indication of direction. They correspond with the various positions of the optic axis, so that when this is turned from one object to another they tell of the different directions, the sweep of the eye giving the angular deviation. The estimate of an angle of difference of direction by this movement of the eye reminds us of the sweep of the index arm of a mariner's sextant.[2]

The doctrine that an object is judged to be in the direction which the axial ray of light from it has on entering the eye, is true, excepting that the last direction of the ray is not at all the ground of the judgment; for of the ray, as well as of the eye itself, we are utterly unconscious. The accord between a visual judgment of direction and the last line of light is because the latter most generally lies in the true direction. The ground of judgment, originally certain muscular impressions, is transferred to certain visual impressions. These, not the last direction of the light, sometimes mislead us. It is thus that refraction, reflection, and aberration cause illusions; for example, the sun appears to have fully risen, when it is in reality still below the horizon.[1]

---

[1] The attitude of the body being erect, it seems not unlikely that we refer a line of direction to three co-ordinate planes at right angles to each other, one horizontal through the eyes, the others vertical, one of which passes through the ears, and the three having their common point in the middle of the head. If it be true that we naturally figure to ourselves in a vague way this construction, each one thus assuming himself to be a centre of things and an origin of co-ordinates, then the Cartesian system of rectangular co-ordinates was not so much an invention as a discovery.

[2] On the authority of Wundt we have that "one suffering from paresis of the right external muscle of the eye, so that the muscle is not able by the utmost effort to effect a lateral movement of more than 20°, locates an object, which in reality is only 20° distant from the median plane, at a point so far outward as corresponds to the utmost outward movement of the normal eye, and, when asked to touch the object, places his finger far beyond it to the right." — See Baldwin, *Psychology*, p. 128, note.

In explaining visible direction, the complete inversion of the retinal picture has been a great puzzle. But it is easily solved by the consideration that we are unconscious of the retinal picture itself. Being conscious only of the impressions which it determines on the inner sight centre, we judge from them of direction according to experience. But on any supposition, the inversion of everything is equivalent to the inversion of nothing. Total inversion does not change or modify any spatial relations whatever.[2]

§ 166. The ear learns to estimate direction. There is an axis of hearing, the line passing through the two ears. Experience teaches that the most distinct sounds come in the direction of this line. We judge that the sound having a maximum distinctness in one ear, and a minimum in the other, has its source in the direction of the auricular axis. An angle formed at the ear by this axis with a radius of the aërial waves, and estimated by the degree of distinctness, also enables one to perceive the direction of the sonorous centre.

---

[1] Like a coin viewed aslant in a teacup of water.

[2] This last is Müller's explanation. — *Hum. Phys.*, p. 916. It is adopted by Carpenter, who objects to Brewster's theory that the line of visible direction is immediately given by the path of the axial ray. Le Conte revives Brewster's theory thus: "Each focal impression is referred back to its corresponding radiant, and thus the external image is reconstructed in space in its true position, or is reinverted in the act of projection." — *Sight*, p. 85. This is merely a geometrical fancy, without a fact to support it. Our knowledge of the direction and relative position of objects seen is an aquisition by sight from our experience in handling them. When we dress before a mirror, we perform a series of partial inversions, perplexing at first, but soon as easy as if we were working under direct vision. So also the microscopist and telescopist adjust themselves to the inversions of their lenses.

But the judgment of direction by the ear is much less accurate and reliable than by the eye, since the ear has no appendages similar to the muscles of the eyeball for counterchecking its estimates; and also because the aërial waves are not so rigidly direct as the ethereal rays. Frequent illusions warn us and impair our confidence. Yet we as truly hear the direction of a sonorous body as we see that of a luminous one. The art of ventriloquism lies chiefly in a skilful mimicry of sounds, so that in spite of reason we misjudge, on grounds of experience and confirmed association, their direction as well as their distance and source.[1]

§ 167. The size of things, and their distance from each other and from me, are given originally only in voluntary locomotive energy. Size or comparative magnitude is measured extension taken as a quality of body. It is given directly in differences of grasp for small bodies, in differences of reach for the larger, and in differences of total movement, as in walking over or about them, for the largest. Distance is the measured extension of the free space between bodies. It is similarly given. What is meant by an object's being four yards from where I stand? This at least, that it would require a certain number of paces to come up to it, a certain amount of voluntary effort, a certain expenditure of muscular energy. The true and ultimate meaning, then, of size and distance, as objects of experience, is tactile and muscular in connection with voluntary locomotion.[2]

---

[1] One of the most pleasing of illusions is echo. Other senses learn to estimate direction. We are led by smell in the direction of fire. We can perceive muscularly, while walking at night, our direction pretty well, but an inexperienced person is liable to wander.

[2] When I say that yonder log is six yards long and a yard in circumference, this ultimately means that it would take so many strides to traverse its length, and the full extent of my arms to embrace it. To get an idea of a mile, I must travel it, and a hundred miles is a hundred times that energy.

Each of the special senses acquires power to discern distance; that is, each of the percepts becomes a ground on which we estimate it. We judge of distance by smell, and even by taste, as when we perceive that we are approaching the sea by the taste of its salty air. The mediate perception of distance by sound is habitual. The sharp clap of thunder is near; the long, subdued roll is far off. We hear the baying of our hunting-hounds, and perceive that they are half a mile away. By the sound of footsteps on a pavement at night we hear them first approach, and then recede. Hence many illusions. The exciting crescendo of an unseen trumpet seems to advance; the soothing diminuendo seems to recede, and die away in the distance. Similarly the ventriloquist, imitating the count of a regiment in line, produces an illusive vista of sounds; and by playing in many ways, with our accustomed sonorous perspective, he cheats, not our ears, but our judgments, and sets them to contradicting each other.

§ **168.** The estimate of the size and distance of near objects by the eye involves several elements. The visual angle, or the angle at the eye which the object subtends, measures the apparent size on the field of view.[1] Now,

---

An infant crawls about its nursery, and handles all it can get hold of, thus investigating size and distance. The natural standards are taken from the human body; as, the inch, or thumb joint; the span; the foot; the cubit, or forearm; the yard, or arm's length or a stride; the fathom, or a man's height, or reach with both arms; the league (Ger. *Stunde*), or an hour's walk, etc. This accords with the ultimate muscular meaning of size and distance. So also my tongue tacitly tells me the size of a morsel.

[1] The visual angle should be distinguished from the optic angle. The latter is the angle formed by the optic axes of the eyes, and has its apex in a point of the object seen. It varies inversely with the distance. It has been supposed by Brewster and many others that the knowledge of this angle, given by the tension of the external and internal recti muscles, enables us to judge the distance of near objects. To this is added the tension of the ciliary muscle, altering the convexity of the crystalline lens (Helmholtz). But Wheatstone ascertained by experiments that "unless other signs accompany

since this apparent size is a projection of real size, it is obvious that there is a certain direct correspondence between them, and that the one furnishes, in part, ground for judging the other.

But it is also obvious that apparent size depends not merely on real size, but also upon the distance from the observer. Apparent size varies inversely as the square of the distance. But the distance, having no projection, no representative, on the field of view, can be judged only indirectly, and with much uncertainty.[1]

Apparent size is given. If real size be known, distance may be estimated. If distance be known, real size may be estimated. If neither real size nor distance be known, one of the two must first be estimated in order to judge the other. Which comes usually first? Since distance has no projection or representative on the field of view, evidently there will first be an estimate of size in order to an estimate of distance.[2]

The distance of two objects from each other is estimated ocularly by judging first their real size; then, if they are

---

the sensation of convergence of the optic axes, the notion of distance we thence derive is uncertain and obscure." For example, the vision of a single luminous point shining in the dark. See *Phil. Trans.* for 1852, *Bakerian Lecture*, by Sir Charles Wheatstone.

[1] Thus the full moon is as large as the sun, though the intense brightness of the sun makes the false impression that it occupies more space on the field of view. The moon appears much larger than Jupiter, and still larger than Sirius, and these projected on the face of the sky may be so situated as to appear at equal distances from each other. All this is unreal. A dime held up in the field of view eclipses the moon, and the moon in turn eclipses the sun, all in one apparent place. And so of terrestrial objects. A book in my hand is as large as the window, *i.e.* it occupies as much of the area of vision. A straw stuck on the window-pane is as high as the pine tree beyond, and as the further mountain. A carriage moving off from me is a striking experience. At first it rapidly, and then more slowly, dwindles. But the carriage itself does not grow smaller; hence what I see is not the carriage. See § 157, note.

[2] This conclusion thus reached *a priori* is the same as that reached by Wheatstone *a posteriori*, or by experiment.

in a line with the observer, his own estimated distance from each gives, by subtraction, their distance from each other; if not in line with him, an easy method of natural triangulation ascertains the distance, and this, by practice, with remarkable accuracy.[1]

§ **169.** The estimate of the size and distance of objects more than twenty feet away depends mainly upon perspective. Ground perspective, as it is technically called, is determined by the number and arrangement of objects in the field of view. Some of these being known in respect of size or distance, furnish means for judging others. The simplest case is that of a vista, as an avenue of trees, or the houses along a street. All lines parallel to the line of sight seem to meet it in the vanishing-point on the horizon, and the length of all vertical lines, as the height of the trees, houses, columns, etc., apparently diminishes in the ratio of the distance. In case of a landscape, a known object, as a man in the middle ground, enables us to appreciate the size, distance, and relative position of objects in the fore and back grounds.[2]

---

[1] Then scientific trigonometry is not so much an invention as a discovery.

That distance, as discerned by sight, is not at all an original but a secondary perception, was maintained by Berkeley in his *Essay toward a New Theory of Vision* (1709), a prelude to his doctrine of the *Perception of a Material World.* See § 136. The latter has been generally rejected, the former as generally accepted. It is noteworthy that Descartes, in his treatise on *Dioptric*, anticipated, in every point, the views of Berkeley respecting vision. See especially *Discourse*, vi.

For further proof we add the pathological fact, that in case of paralysis of of the abductor muscle of the eye, the patient sees objects further from him than they really are. A stonemason afflicted with this disease strikes his hand with the hammer instead of hitting the stone (Wundt). But little by little he recovers his judgment of distance, though by great effort.

[2] Optical illusions are so frequent that the word *apparent* is used in opposition to *real* (cf. *apparition*). The full moon and the sun, when near the horizon, appear larger and further than when overhead, though, in fact, the angular diameter is then somewhat less. This is because at the horizon intervening objects furnish a perspective. If we cut off this by looking

Aërial perspective or atmosphere is the greater or less dimness or distinctness of an object. This, having been found to vary with the distance, furnishes a basis of estimate. Thus we judge the relative distances of mountain peaks rising above and beyond each other, and becoming more and more dim.[1]

The art of landscape-painting depends on the principles of perspective. In early life, before the visual signs of real size and distance have been investigated, and the secondary perception acquired, it is probable that a real landscape is viewed as an erect surface like a picture. An important part of the education of artists consists in learning to view landscapes thus, in order to depict them, which is called by Ruskin "recovering the innocence of the eye."

§ 170. The definite location of the percepts of touch on parts of the skin is an acquired perception. It is evident that we cannot locate these percepts unless we have knowledge of the superficial form of the body. If my foot and shoulder be lightly struck, I would surely be conscious that the contacts were two, even if simultaneous, and this doubtless by virtue of the independence of the nerve connections; but I could not locate the contacts without some knowledge of the localities. Now a knowledge of the superficial extent or shape of my body is acquired by the voluntary locomotion of one part, as the hand, over other parts. Having thus learned it, I entertain a representative image of my figure,

---

through a tube, the estimate is instantly reduced. For the same reason the dome of the sky appears flattened, or less than a hemisphere. A landsman's estimate of distance at sea is liable to be very erroneous, his accustomed basis of ground perspective being wanting.

[1] In the clear air of Italy the background of the landscape seems much nearer than in hazy England. A man seen in a fog appears gigantic; the aërial effect overcomes and reverses the usual order (§ 168); we overestimate his distance first, and then his size. On illusions see Reid, *Inquiry into the Human Mind*, ch. 6, § 22; also Brewster, *Letters to Sir Walter Scott on Natural Magic*; also *Memoirs of Robert Houdin*, an autobiography.

and then it becomes possible to locate a contact on the foot, or hand, or trunk, or head. But since this is done through a representative knowledge of my superficial figure, it follows that this localization is representative, mediate, and acquired.[1]

Moreover, if a tactile sensory nerve trunk be tied with a thread, all parts of the skin supplied by it become wholly insensible; but if the trunk be irritated above the thread, pain is felt, which, however, is referred to those parts, although the nervous communication with them is entirely cut off. So when the foot is asleep, the disagreeable sensation of numbness, which is distinctly referred to the foot, is because of an injurious pressure of a trunk nerve, perhaps in the thigh, and we greatly mistake the true situs of the disturbance. Such facts show that the definite location of the sense-percept is mediate. The remarkable illusion, known in surgery as "the phantom limb," not only accords with, but strongly confirms this view.[2]

What has been said of the location of tactile sense-percepts is true of cutaneous sensations generally, and also of all internal sensations. The latter, however, owing probably to the comparative sparseness of the nerve connections and to their being less accessible to observation, are localized with more difficulty and less accuracy. Painful disturbances of the liver, the spleen, the kidneys, are hardly distinguishable, and are often misplaced even by those who know something of their own anatomy. The well-informed physician often applies local remedies to parts remote from those where the pain is distinctly felt.

---

[1] See § 24, note on "local signs." When a babe is hurt by a pin, it screams with pain, but shows no sign of knowing where the hurt is. Sometimes the dentist pulls the wrong tooth, because we cannot tell him certainly which one it is that aches.

[2] After an arm has been amputated the patient still locates sense-perceptions in a representation of it. He will say: My hand is open; now it is shut. I am touching my little finger with my thumb, etc. An irritation in the stump he feels in the phantom hand. Müller insists that "these illusions are permanent and preserve the same intensity throughout life." — *Phys.*, p. 643. Vulpian, Carpenter, Spring, and others, hold the contrary. Also Dr. S. Weir Mitchell, who has made a special study of the phantom limb, says: "The site of the amputation does not seem to exercise any influence upon the consciousness of the existence of the limb, but in time, if not reminded by pain or other subjective symptom, the patient is apt to lose sense of the presence of the part, and this, I think, is most liable to occur as regards the leg." — *Lessons of the Nerves*, p. 350; cf. p. 359. That is, the old judgments of locality are gradually replaced by new ones.

It was this curious fact that led Descartes to explain localization by association. See remarks by Coleridge, *Biog. Lit.*, ch. 5. Also by Ribot, *Ger. Psych.*, pp. 111-2.

§ **171.** Let us consider another curious and significant fact. If I touch a rough wall with the end of a rod, the roughness is not perceived at the hand grasping the rod, but beyond, at the wall. Moreover, I locate the sensation also at the remote end of the rod, rather than in my body. The end of the rod seems to be sensitive. I feel out there the roughness and hardness. The perception apparently carries the sensation perforce along with it out of my body; or we might say, my personality seems enlarged and extended to the point of the rod. Upon this principle depends the efficacy of tools. If we felt merely their contact with the hand, and not their hold and movement on the material, they would be unmanageable and useless. So the knife and fork, the knitting and the sewing needle. So the probe of the surgeon; he feels the bottom of the wound. The stick of the groping blindman seems to him a part of himself. This extension of tactile and muscular sense-perception beyond the periphery is obviously representative and acquired.[1]

---

[1] This feeling of enlarged personality is quite remarkable. If I hold a rod by the middle, I feel its weight only; but if by any other part, or if balanced vertically on my finger, I feel its length, and am carried out beyond myself to that extent. If I swing a plumb-line, I feel its length; the plumb has become a part of me, and describes my own circumference. If I balance a bowl on the tip of my finger inside, and some one taps its edge with a stick, I feel the expanse of the bowl.

This will account perhaps for some fancies in dress. High heels give a

The percepts of our other senses are also located upon what is conceived to be their proximate cause. As we assign tangibility to what is perceived to be in contact with the skin, so we locate the red color on the rose, and we assign the blue to the sky, even after we have found out there is no such thing as a sky. We locate the blast of a trumpet in its throat, the peal of a church-bell in the steeple, sweetness in the sugar, and perfume in the violet. If, however, I have learned that odor is caused by an ether, I may come to represent it as diffused in the ambient air. The physicist, who is accustomed to represent sound as aërial vibration, will locate the tones of the bell, not in the steeple, but in its atmosphere. In these cases, the sensation, if located at all, is referred to one's own body, generally to the organ of sense in exercise.

feeling of height from the ground up. A man sets his beaver square on his head, and feels its weight only; a dandy sets his a little to one side, feels its swing, and is elevated to its centre of gravity. So the waving curls and floating sash of a young miss, and the long train of a duchess, give a wide and enjoyable sweep to their feeling of presence.

It will also account, in part at least, for our fondness for horseback exercise. A rider is more than a man; he is, in one word, a horseman. He feels the stroke of the horse's feet on the ground; feels it himself to be hard or soft; feels the animal's strength and speed to be his own, and will say, I have just galloped a mile, when in fact it was the horse only that galloped. Perhaps the myth of the centaur took its rise from this feeling.

Lotze discusses these feelings at some length. See *Mikrokosmus*, bk. v, *Geist*, ch. 2, *Die menchliche sinnlichkeit.*

CHAPTER III.

SUGGESTION.

§ **172**. Before discussing the specific powers of mediate knowledge, it is needful to consider the sequence of mental states. Perceptions being dependent on the presentation of external objects, the order in which they follow each other is determined from without and not by the mind. Representations, being wholly subjective, and so independent of external objects, their order of sequence must be either altogether fortuitous, or else determined by some principle of the mind itself. We are conscious of a constantly changing train of mediate cognitions; one follows another unceasingly. Evidently they do not arise at hap-hazard, but are connected by bonds which determine the train.

Logical sequence occurs when one or more cognitions implicitly contain one other which the process of thinking explicates.[1] The sequence is intrinsic in the thoughts themselves. The individual thinker propels the train, but does not determine its order: this is the same in all minds, being independent of experience and habit.

Suggested sequence occurs when a present mental state induces the repetition of a past similar state with its associations. This bond between the present and the past is established by the experience, and strengthened by the habits of the individual mind. It determines that a present state shall be followed by a repetition of past states. This, as distinct from the logical order, may be called the psychological, or the empirical, order. Its procedure is expressed in three laws, called the Laws of Suggestion.[1]

---

[1] For example, the notion of a triangle is followed by the notion that an exterior angle is equal to the sum of the two opposite interior angles. The consideration of logical sequence is postponed to the topic Thought.

§ **173**. The first is the Law of Similarity, or of Repetition, thus: A present mental mode tends to suggest a past similar mode. The suggesting and the suggested states are similar, but differ in time. For examples: I see a man and recognize him as having been seen before; the grief that now agitates me recalls a former grief.[2] This law expresses a primary condition of complete recognition, of the reproduction, renewal, revival, or repetition of a previous state, according to subsequent laws.[3]

Present mental states tend to revive also their contraries. The brightness of to-day may remind one of the darkness of last night.[4] But this occurs only through the law of repetition. We have seen that, by the law of relativity (§ 58), every cognition coexists with its opposite or contrary. Hence a state may recall a past contrary, but not directly. Either it recalls its own past similar, and with it the past contrary, or the present contrary recalls its past similar.[1]

---

[1] Hamilton's treatment of this subject, *Meta.*, p. 428 sq., abounds in good illustrations, but is philosophically defective. See Mill, *Ex. of H.'s Phil.*, ch. 14. But in *Reid*, note D***, Hamilton gives it a much more thorough and satisfactory analysis.

[2] Other examples: I hear a sound, as of a steam-whistle, and recognize it as indistinguishable from what I have often heard before. A sweet taste just now experienced reminds me of a sweet taste experienced some time ago. The present thought of a social duty suggests the entirely similar thought of yesterday.

Let it be noted that the principle of similarity is not association, for the mental states implied have not been experienced together, which is essential to association. Wit, which always presents something new, has been fairly defined as a quick discovery of remote resemblances. *E.g.* the French say, a prudent man is like a pin, his head keeps him from going too far. Voltaire said, ideas are like beards, women and boys have none. Putting these in form of question and answer, we have the conundrum. So also punning, rhyming, and alliteration depend on similarities, and not at all on association.

[3] For shock of similarity as fundamental, see § 59.

The terms reproduction, etc., are apt to mislead. A present state cannot be strictly a revival or renewal of our past. It is similar, but not the same, for it differs in time, without having persisted meantime, which is essential to identity.

[4] Other examples: The cold of this winter suggests the heat of last summer; the frigid, the torrid zone. Seeing the strength and boldness of a lion, I may think of the weakness and timidity of a hind. A mountain reminds me of an abyss. The brevity of life brings to mind eternity. Sidney Smith said that in time of danger presence of mind is good, but absence of body is better.

§ **174.** The second is the Law of Association, or of Redintegration, thus: Mental modes occurring together or in close succession, adhere, so that the after-recurrence of any of them tends to suggest the others. The suggesting and suggested states are dissimilar, but have previously occurred at the same time.[2] For example: A spoken word strikes my ear. The sound is somewhat familiar; that is, the present is similar to some previous mental state, which being thus partially revived, constitutes a partial recognition. So far, this is according to the law of similarity. But the previous state was associated with other dissimilar yet simultaneous or successive states, to which it adheres. By virtue of this adhesion they also are recalled, and I now fully recognize a peculiar pronunciation as the habit of a friend whose person I now mentally represent, together with the circumstances of a conversation I had with him yesterday while dining with him at his home. Thus having revived, according to the law of similarity, one point of a past experience, the mind then, according to the law of redintegration, spreads, as it were, through all the attendant circumstances with which the point was associated, and so reintegrates, or makes whole again, the former total state. This second law is obviously conditioned on the first.[1]

---

[1] We proceed, as it were, along the sides of a rectangle, rather than directly along its diagonal. Alexander of Aphrodisias held that the suggestion of contraries is equivalent to that of similars, because contraries always have common attributes. — In *Top.*, i, 18.

For failures in the law of similarity, due to feebleness or to diversity of impression, see Bain, *Senses and Intellect*, p. 461 sq., Am. ed.

[2] See this law as stated by Kant, *Anthropologie*, § 30. Juxtaposition is also usually held to cause association, as lips and teeth, Naples and Vesuvius. Hence this is often named the law of contiguity in time and place. But objects in space are known to be contiguous only by being observed simultaneously or in succession; and it is this, and not juxtaposition, that is the proximate cause of the adhesion.

§ **175.** When the experience causing the adhesion is one of succession, then the total reproduced is a total of succession, and the order is the original order. We can easily say the words of the Lord's Prayer in their order; but it would not be easy to say them backwards. Yet regressive order is not disorder, only it is not the order of association.[2] A natural order in some cases determines the associated order; for examples: an observed cycle, as that of the seasons; an evolution, as the growth of plants; cause and effect, as hail and damage. But more often the order is arbitrary or accidental.

After a chain of associations has been formed, it not infrequently occurs that intermediate links disappear, those that remain interlinking with each other, and still preserving their original order. Thus the feeling of pleasure becomes associated in the mind of the miser directly with the mere possession of money, he having lost the connecting link, conveniences procured by money, out of the chain, money, conveniences, pleasure.[1] Thus it is that thoughts which originally followed each other in the order of logical sequence, and were linked by reasonings, become associated by these experiences, and afterward suggest each other in the same order, but without a repetition of the reasoning. We have many special examples of this in the mediate perceptions (§ 161).

---

[1] Thus the name Alexander the Great may suggest Alexander the Coppersmith. Campbell's lines, —

"— we linger to survey
The promised joys of life's unmeasured way,"

very readily suggest those of Pope: —

"— we tremble to survey
The growing labors of the lengthened way."

The striking similarities enable us to recall the differences.

The following, from Hobbes, is an oft-repeated and classical illustration: "In a company in which the conversation turned upon the late civil war [1642–49], what could be conceived more impertinent than for a person to ask abruptly, what was the value of a Roman denarius? On a little reflection, however, I was easily able to trace the train of thought which suggested the question; for the original subject of discourse naturally introduced the history of the king, and of the treachery of those who surrendered his person to his enemies; this again introduced the treachery of Judas Iscariot, and the sum of money which he received for his reward." — *Leviathan*, pt. i, ch. 3.

A number of fine illustrations are given by Stewart, *Elements*, i, ch. 5.

[2] The notes of a familiar tune suggest each other, and we sing it through. Now try to sing it backwards.

§ **176**. When the total revival is a complement of states associated by simultaneity, the likeness to a chain does not hold. In speaking of a train of thoughts thus associated, it should not be understood that one idea or mode brings up another, and this a third, and so on, in a simple chain. We should remember that ordinarily in any given state we are conscious not of one, nor merely of a few, but of a great many things at once (§ 64). Now each of these things may have its own peculiar connections with previous states of the same manifold sort. Whichever one, then, operates to suggest its special associations, that brings up, not merely another one, but a new multitude, and some one of this throng brings up still another throng of cognitions, feelings, states, of every kind. The succession, then, is not like that of the links of a chain, but rather like that of the links of an intricate network, each of which has its own independent and numerous connections. Thus in lively conversation, the several topics, suggested often by chance words or phrases, come freely, without logical connection, and the mind is crowded with successive swarms of ideas, images, thoughts, and feelings. In reverie, images come and go in great troops, every moment the scene changes, we can scarce tell how, and host follows host unceasingly.[1]

---

[1] Hartley expresses this in his Law of Transference.—*Observations on Man*, ch. 4. See also Morell, *Hist. of Phil.*, pt. i, ch. 1, § 3. Thus, probably, Hamilton lost B, his A interlinking directly with C.—*Meta.*, pp. 244 and 439 sq. So the events of history come to be immediately associated with its monuments, a long intermediate chain of studies being overlooked. Amid the ruins of ancient Rome, "*quocunque enim ingredimur, in aliquam historiam vestigium ponimus.*"—Cicero, *De Finibus*, bk. v, ch. 1.

§ **177.** Some states between which there is no necessary, and it may be no natural, connection become nevertheless so firmly adherent by a frequent experience of them together, and perhaps never an experience of them apart, that they cannot be separated. If one exists, the other exists along with it in spite of every effort made to disjoin them. This is called indissoluble association.[2] For example, it is hardly in our power to dissociate color and extension. We have constantly seen them combined; we have, perhaps, never observed color unless apparently spread, as it were, on a surface; they have been invariably conjoined. Whenever, then, the idea of the one occurs, that of the other comes along with it, and is retained as long as the first remains. Yet there is no necessary connection between them. Color is wholly subjective; extension is objective. The man born eyeless appreciates extension without color; and if his inner organ be excited by an electric shock, he experiences color without extension. "There is no more connection," says Stewart, "between color and extension, than there is between pain and solidity." He might have said, not so much, for solidity may be a cause of pain, but extension cannot be a cause of color.

---

[1] "Lulled in the secret chambers of the brain,
Our thoughts are linked by many a hidden chain;
Awake but one, and lo! what myriads rise,
Each stamps his image as the other flies."
—ROGERS, *Pleasures of Memory.*

"Zwar ist's mit der Gedankenfabrik
Wie mit einem Webermeisterstück,
Wo ein Tritt tausend Fäden regt,
Die Schifflein herüber hinüber schiessen,
Die Fäden ungesehen fliessen,
Ein Schlag tausend Verbindungen schlagt."
—*Faust*, p. 73, Whitney's ed.

See Cardaillac, *Études Elément. de Philos.*, t. ii, ch. 5.

[2] See James Mill, *Analysis*, etc., ch. 3.

§ **178.** Clearly the two laws which have been stated are applicable to various modes of cognition. Perceptions become associated merely by the experience of them together or in close succession, so that the subsequent presentation of one excites a representation of the other (§ 161). Upon this depends the possibility of language.[1] So also memories, imaginings, and thoughts may suggest each other.[2]

The adhesions determined by experience are not, however, limited to cognitions, but take place between any, even the most heterogeneous mental states. Not only may a feeling be associated with a feeling, or a volition with a volition, but a cognition may be united with a feeling,[3] a volition

---

[1] The association between a vocal sound and the position of the organ of speech requisite to produce it enables the one to recall and reinstate the other. Hence the power of imitating sounds, or of producing them at will. Again, these sounds are associated with the things which they name, and in written language the visible forms of words are likewise associated with the things. Moreover, the sound and the written word are associated with each other. These connections are almost wholly arbitrary, yet they are the essential basis of human speech. So a child comes to distinguish its right hand from its left (see Jonah 4 : 11), by associating the words with a particular set of muscular sense-perceptions.

One who has an ear even slightly educated appreciates the rhythm and rhyme of verses in silent reading; and a musician silently scans written music, enjoying its beauties and critically judging its merits.

[2] No logical connection is requisite. I see a toad, and instantly think of Ithurial's spear. But for the toad, I should not have thought of the spear. See *Paradise Lost*, bk. iv, ll. 797–882.

[3] A burnt child dreads fire; or, as a Hebrew proverb has it: Who has been bitten by a snake is afraid of a rope. Says Ossian: "The music of Carryl was, like the memory of joys that are past, pleasant and mournful to the soul." Descartes, in illustrating association, says that when a child he had as a playmate a little girl with a squint, whose early friendship made him ever after regard this defect with favor. See an odd case mentioned by McCosh, *Emotions*, p. 179.

The fact of associations or adhesions between mental states other than with a cognition, an affection with a sensation, and so on; and these then suggest each other. Indeed, an association may be so strong as to reproduce, not merely mental, but also physical states.[1]

§ **179.** The third law is the Law of Preference, thus: Suggestion takes the direction and is in the ratio of the interest which objects have for the individual mind. The two previous laws do not account for all the phenomena. They explain recurrence by association, but not why one idea or mode takes preference of others. They explain the fact of adhesion, but not why A preferably adheres to C rather than to B. They explain the general tendency, but not the mode of realization. The third law is complementary.

Associations are established by experience, but they are modified and directed by the native disposition, tastes, and habits of the individual. Two persons under entirely similar circumstances will recur to very different ideas, and that

---

cognitive shows that the phrase "association of ideas," which is the usual title given to this whole subject, is much too narrow. It originated with Locke, who, however, used the term idea in a wide sense. The old scholastic title, "the excitation of species," is also inadequate, since adhesions occur between heterogeneous states.

[1] Reading a bill of fare may excite hunger. One who has taken quinine in coffee, for weeks tastes its bitterness in every cup. A remedy for inebriety is to put tartar-emetic in the drink; thereafter liquor is nauseous. See a curious statement in Rush, *Medical Inquiries*, vol. ii, p. 42. Thinking of a precipice excites a thrill, and even may make one dizzy. Imagine a nail drawn across a slate, the flesh creeps. The sight of the surgeon who has performed a painful operation on me revives my agony, and excites a dislike for his person. See the anecdote in Locke, *Essay*, bk. ii, ch. 23, § 14. News of a battle makes a veteran's old wound burn. So Heine's ballad, *Die Grenadiere:* "Wie breunt meine alte Wunde!" Seeing the assassin who has recently attempted one's life may cause the wound to bleed. Possibly in this originated the old and widely spread notion that a murderer's approach to the corpse of his victim causes the wound to bleed afresh. See *Nibelungenlied, Siebenzehntes Abenteuer; Richard III*, A. 1, sc. 2; *Fair Maid of Perth*, ch. 23; and *Marble Faun.*

perhaps in spite of the natural relations of things. Such a relation subsists between the ideas horse and work, and also between rain and growth, and to a farmer the one will suggest the other. But to a jockey the idea of a horse suggests a race, and to a tramp rain suggests mud. The preference is determined by the interest arising from taste and habit. Likewise our interpretation of events is determined largely by preference in associations according to taste and habit.[1]

The points determining preference are sometimes stated as the secondary laws of association,[2] thus: 1. Long continuance or frequent repetition of impression confers preference. This is by the general law of habit. 2. Natural adhesiveness causes preference. One's disposition, as gloomy or cheerful, his taste, as vulgar or refined, his talents, as for languages or mathematics, will generally give direction to his associations.[1] 3. Recentness of the impression. 4. Concentration of mind in attention.

---

[1] A very fine illustration, too long to quote, will be found in *Merchant of Venice*, A. 1, sc. 1, speech of Salarino.

When Moses and Joshua were coming down from the mount, and heard from far the noise of the people as they shouted, the warrior said with military brevity: —

"A noise of war in the camp."

But the poet said: —

"Not the voice of them that shout for mastery,
Nor the voice of them that cry for being overcome,
But the voice of them that sing, do I hear." — Exodus 32 : 18.

The following classical illustration is taken from Helvetius: "The passions not only concentrate our attention on certain exclusive aspects of the objects which they present, but they likewise often deceive us in showing these same objects where they do not exist. The story is well known of a parson and a gay lady. They had both heard that the moon was peopled, believed it, and telescope in hand, were attempting to discover the inhabitants. If I am not mistaken, says the lady, who looked first, I perceive two shadows; they bend toward each other, and are doubtless two happy lovers. Lovers, madam, says the divine, who looked next, oh, fie! The two shadows you saw are the two steeples of a cathedral. This story is the history of mankind. In general we perceive only in things what we are desirous of finding. On earth, as in the moon, various prepossessions make us always recognize either lovers or cathedrals." — *De l'Esprit*, dis. i, ch. 2.

[2] See Brown, *Phil. of Hum. Mind*, § 37.

§ 180. The English school of psychologists hold that the principle of association is the fundamental law of mind. All our psychic states are merely transformed associations. "Not only our intellectual pleasures and pains, but all the phenomena of memory, imagination, volition, reasoning, and every other affection and operation, are only different modes or cases of the association of ideas; so that nothing is requisite to make any man whatever he is, but a sentient principle with this single property."[2]

We have endeavored to exhibit the principle of association, not as productive or transforming, but as merely reproductive. It is unquestionably of wide and important consequence in mental processes, especially as underlying the specific faculties of representation. To these we now proceed.

---

[1] Says Aristotle in *De Memoria:* "Certain things with certain minds become more intimately associated at the first movement than with other minds, though this be frequently repeated. Hence it is that some objects which we have seen but once are more perfectly remembered by us than others which we have oftentimes beheld."

[2] Priestley, *Hartley's Theory,* Int. Essay, p. 24. The whole theory of evolution is contained in the last clause.

The general subject is discussed by Aristotle, *De Mem. et Rem.*, ii, 8; by Augustine, *Confessions*, lib. x, ch. 19; by Leibnitz, *Nouv. Ess.*, I, ii, ch. 33; by Hobbes, *Leviathan*, ch. 3; and by Coleridge, *Biog. Lit.*, chs. 5–7. The theory culminated with Hartley, *Observations on Man*, ch. 4. He found in association the fundamental law of mind, which alone accounts for all mental phenomena whatever; the prolific principle, which evolves from mere experience all our activities of both consciousness and conation. He held that "transference" is the generalization of this process (§ 175, note). The theory has been variously modified by its chief advocates, James Mill, John S. Mill, Bain, and Spencer, but in its essential features is characteristic of the English school of thinkers.

CHAPTER IV.

MEMORY.

§ **181.** Memory is the representation of a past experience. This definition implies that the past experience is represented as a past experience. Memory is a recognition, a knowing over again, a consciousness of a certain mental image, involving the conviction that this image now represents ideally what was formerly experienced really.

It seems to be an ultimate constitutional fact, which, therefore, is not in itself susceptible of explanation, that mind tends to modes consciously similar to previous modes, or tends to a conscious repetition of its modes, and this tendency, in respect of cognitions, gives rise to the phenomena of memory. This we shall call the theory of repetition.[1]

§ **182.** There is in an act of memory, a primary and a secondary judgment. The primary is a psychological judgment, a fact of consciousness. It is that I have heretofore experienced a state similar to the one now present. More than this it does not affirm. It makes a conscious reference to past time, but is wholly indefinite as to time when. This primary judgment may not attend a renewed cognition. A state that has in fact been experienced before may seem quite novel, may not be recognized. Then it is not memory.

---

[1] A thing is said to be repeated when there is another thing numerically distinct, but otherwise indistinguishable; *i.e.* precisely similar. They are either separate in space, as two coins; or in time, as a double rap; or in both, as the twin Dromios. Mental states are repetitive when they differ in time only. An act of memory repeats but a part. When I represent a former presentation, the two states differ in many respects besides time; still some common or repeated element produces the shock of similarity.

But when this judgment does occur, recognition, in so far, is intuitive and unerring.

That this is a psychological judgment is evident. The shock and judgment of similarity, in case of simultaneous impressions, is allowed by all to be an ultimate, intuitive fact of consciousness. Surely in case of successive impressions, as the strokes of a clock, the judgment of similarity is not less a fact of consciousness, not less an intuition.

§ **183.** The secondary judgment of memory affirms the time, place, and circumstances of the past experience, and constitutes complete recognition. The primary judgment is immediate and certain; the secondary is mediate, and liable to error, being subsequent and inferred. Hence all distrust of memory has reference exclusively to this secondary judgment. For we are very apt to conjoin circumstances which were really separate in time and place, and so to mistake an act of imagination for one of memory.[1]

The secondary judgment may be attended by any degree of belief, from the faintest suspicion, up to the highest confidence, falling just short of strict certainty. The degree of this belief seems to correspond with the degree of familiarity excited by the incoming circumstances.[2] When this feeling is strong, the judgment is quite pronounced and confident. In case two points belonging to my past experience recur in memory, each is attended by its own degree of familiarity. If, however, they originally occurred together, their recurrence is attended by a degree of familiarity more than is due to their sum, for to this sum we must add the familiarity arising from their original connection. Then I am highly confident that the two originally occurred together.[1] Thus our confidence in recollecting a past fact is greatly increased by connecting with it minute and otherwise insignificant circumstances.

---

[1] For example, on meeting a man I recognize him as one I met yesterday. I call him by name, and speak of our previous meeting; but in a moment he convinces me that he is another person whom I have never met before. Did I altogether mistake? Not every particular. I am still certain that the impression he made was in some respect quite similar to a former impression. My error was solely in the secondary judgment. The trustworthiness of one's memory lies largely in the ability to distinguish between a real and an ideal concomitance of circumstances.

[2] For the feelings of certainty and belief, see § 227. For familiarity as a basis of memory, see § 224.

§ **184**. It is quite evident that memory acts according to the laws of suggestion. Its primary judgment is a specific judgment of similarity, one relative to the past. This corresponds to the first law of suggestion, the law of similarity. Its secondary judgment is a judgment of totality, bringing in the time, place, and circumstances. This corresponds to the second law, the law of association or redintegration. The laws of suggestion, therefore, as applied to cognitions, are laws of memory.

§ **185**. The law of memory is involved in the more general law that mind tends to modes similar to previous modes, or tends to repetition. This theory of repetition is in contrast with what may be called theories of retention.[2]

One of these holds that a state of mind excited by an object is actually retained ever afterward in a condition of tension, and on a fit occasion springs forth into consciousness. A mental activity can never absolutely cease to be. Its predominance is lost, but the activity itself does not, can not, cease. It continues as an activity of inferior, and it may be of extremely low, tension, until some combination occurs that revives its intensity, when it reappears, again predominant, and the same, having persisted throughout.[1]

---

[1] It has often been asked, for instance, why it is that on trying to recall the name of a person while looking at him, I successively reject Smith, Jones, and others, but on trying Brown, I am at once assured that this is his name. Augustine, *Confessions*, bk. x, ch. 19, gives an explanation differing from that above.

[2] In common speech the phenomena of memory are usually expressed metaphorically. The mind is said to retain its knowledge and to revive or reproduce it on occasion. Memory is a storehouse where the accumulations are treasured up, a *thesaurus omnium rerum*, says Cicero, *De Oratore*, i, 5. It is a bureau where facts are filed for reference, a reservoir of experiences, *ἡ μνήμη σωτηρία αισθήσεως*, says Plato, *Philebus*, 34 Steph. All such figurative expressions are unscientific. They are accommodations to be tolerated only in the poverty of language. See Locke, *Essay*, bk. ii, ch. 10, § 2. Yet many psychologists undertake to explain how mind does literally retain and reproduce its acquisitions.

Two objections may be offered in passing. All agree that my consciousness of an event is my knowledge of that event. But according to the theory, my knowledge next day in memory of the event is this same knowledge revived. Hence this knowledge in memory is a consciousness of the event of yesterday; that is, I am conscious of the past, which is absurd.

A perception and my recollection of it are states differing widely in kind. The one is relative to a present external object, the other is wholly subjective; the one is passive, the other active; the one is attended by sensation, the other not. There is a similarity amid these differences, yet they are such as preclude identity.

§ **186**. Other psychologists attribute memory to physical action, and find ground in the brain for the phenomena of retention. "We know what are the conditions of making an acquirement, or of fixing two or more things together in memory. The separate impressions must be made together, or flow in close succession, and they must be held together for a certain length of time, either on one occasion or on repeated occasions. Now to each impression, each sensation or thought, there corresponds physically a group of nerve-currents. When two impressions occur, or closely succeed one another, the nerve-currents find some bridge or place of continuity, better or worse, according to the abundance of nerve-matter available for the transition. In the cells or corpuscles where the currents meet and join, there is, in consequence of the meeting, a strengthened connection or a diminished obstruction, a preference track for that line over other lines where no continuity has been established. This is merely a hypothetical rendering of the facts, yet it is a very probable rendering."[1]

---

[1] So Herbart and his followers. See especially Schmidt, *Versuch einer Metaphysik der innern Natur*, p. 231 sq. This view was adopted by Hamilton, who defines memory as "the power which the mind possesses of retaining hold of the knowledge it has acquired." — *Meta.*, Lec. 30. He calls it "the conservative or retentive faculty in which the phenomenon of retention is the central notion." — *Id.*, p. 412. He distinguishes it sharply from "the reproductive faculty, or the process by which what is lying dormant in memory is awakened." — *Id.*, p. 427. Bain condemns this as fictitious. — *Logic*, p. 640. Yet elsewhere he says: "The fundamental property of intellect, named retentiveness, supposes that something has been ingrained in the mental structure that succeeding impressions have not been able to blot out." — *Senses and Intellect*, p. 325.

When we consider the concomitance and interdependence, the mutual action and reaction, of mind and brain, and the progressive growth and gradually confirmed organization of the latter, this hypothesis, though perhaps too specifically stated, seems plausible. That the brain acquires preferences is possible, and if so, it may largely determine in spontaneous memory the succession of images, and in voluntary memory the greater ease with which certain lines of thought are recalled. As in perception, the mind is passive and determined to its special state by the condition of the excited sensory, so it is conceivable that in memory it may be passively determined to certain successive states by acquired brain tendencies, by physical preferences, which have become established through habitual exercise.[2]

[1] Bain, *Mind and Body*, p. 117. We adopt the illustration of Gassendi, who compares mind to a sheet of paper which is capable of receiving very many folds, and which not only repeats those in which it has been often or sharply laid, "*verum etiam possint facili negotio excitari, redire, apparare, quatenus una plica arrepta, cæteræ, quæ in eadem serie quasi sponte sequuntur.*" — *Physica*, lib. viii, ch. 3, § 3.

[2] This will explain why aged persons often have a vivid memory of early events, and one dim of those recent, as illustrated by the character Elspeth

This supposed transference of cause from the mental to the physical sphere has an analogous precedent in the acquisition of physical dexterities and habits under the law of reflex action (§ 37). We may conceive that as muscular movements, originally voluntary, become by habit involuntary physical instincts, a ganglionic nervous centre acquiring the power to determine and co-ordinate them as purely reflex actions, so brain may acquire such conformation as to determine automatically a series of states, and their concomitant states of consciousness. Such transference from the mental to the physical seems to be according to laws of growth and complete development.[1]

---

in Scott's *Antiquary*. We may suppose that in old age certain lines of cerebral communication have become fixed, and the brain indurated by a sort of organic crystallization, with a loss of youthful plasticity and the power of forming new combinations.

The hypothesis is helpful in accounting for the loss of specific memories. Dr. Beattie lost, for some time, from a blow on the head, his knowledge of Greek, whilst his other mental stores were left intact. Ballantyne relates of Scott that when *The Bride of Lammermoor* was submitted to him after an illness, he did not recognize it as his own, though the original tradition was still clearly remembered.

We often hear of cases of marvellous power of memory, and they make on us the impression that the power is unlimited. But every one is a blockhead in something, and memory in the lines of incapacity is a rope of sand. Moreover, much improvement in later life is a substitution, which is not an addition, of mature for immature judgments. We lose at one end as much as is gained at the other. Newton, turned theologian, forgot his own scientific discoveries; and Erasmus forgot his mother-tongue in favor of Latin. These limits to memory are best explained by identifying them with the limited capacity of the brain to receive and retain lines of preferred activity.

[1] Spencer carries this very far. "Memory belongs to that class of psychical states which are in progress of being organized. It continues so long as the organization of them continues, and disappears when the organization of them is complete." Memory is "incipient instinct," and instinct "a kind of organized memory," it is "inherited experience." — *Principles of Psychology*, §§ 192, 202. Birds instinctively building their nests are exercising a fully organized, and so obsolete, inherited memory. They are, then, more completely developed beings than we, who are in an earlier, transition stage. Humanity, then, is running down to the brutal forms. But how did we ever get, from our zoöphyte beginning, up to our present unstable height? Does evolution work both ways at once?

It appears reasonable, therefore, to accept the hypothesis that, as a result of mental exercise, the concomitant activities of the brain induce lines of preferred or more facile nervous action, having various degrees of permanence, which determine subsequent mental tendencies.[1] But this hypothesis cannot be held exclusively. It is not sufficient to account for all the facts. It does not explain voluntary recollection, wherein will determines the train of images. It affords no explanation of first spontaneous memories, wherein experiences often recur to us for the first time with a vividness and vigor surpassing old established memories; nor why recentness of impression is a special occasion of vivid memory. Hence the theory of a mental tendency to repetition is held by us as expressing the original and ultimate ground of memory; and the theory of physical retention is allowed as supplementary.

§ **187.** Having defined memory, and discussed the principles and causes to which it is to be referred, we now turn to examine its kinds. A distinction is taken according as memory is exercised spontaneously, called remembrance, or under the direction of will, called recollection.[2]

In remembrance one image follows another, according to the laws of suggestion and involving a reference to past time, without the intervention of will. The mind is passive, operating spontaneously, and we are reminded of things simply and solely as they happen to be similar or associated, without any exercise of choice. It is so in reverie. In dreams, also, we have an illustration of mere remembrances, the absence of a directing will over the train of images being characteristic of dreaming.

---

[1] In that case it is the brain, and not the mind, which is retentive of impressions, but not of knowledge, much as the printed page retains its story, or the worn channel its current. Brain is the bank of deposit which, when drawn upon, yields not the same, but similar and equivalent knowledge. The beaten and established paths are preferred by mind in subsequent movements. Or, to speak literally, neural states facilitated by exercise tend to superinduce mental states similar to those previously concurring.

[2] The distinction dates from Aristotle, and occurs even in the title of his treatise, *De Mem. et Rem.*, περὶ μνήμης καὶ ἀνάμνησις.

Remembrance or involuntary memory may be subdivided into simple recognition or reminiscence, and complex recognition or remembrance proper. We are often reminded of something, with a sense of familiarity, but without any remembrance of the time, place, or circumstances of the former experience. This is simple recognition or reminiscence, the law of repetition alone being effective.[1] When, however, the law of redintegration also becomes involuntarily effective, suggesting the time, place, or other associated circumstances, this fuller reminding may be distinguished as complex recognition, or remembrance proper.

§ 188. Recollection is voluntary or intentional memory. It is an activity, a deliberate choice being followed by an endeavor to recall something fully to mind. The special function of will is to fix attention, to concentrate consciousness on a chosen object (§ 89). The immediate effect is to intensify the consciousness of the chosen object at the expense of others within its sphere, according to the law of limitation (§ 83). A further consequence is that the adhering states are brought into clear consciousness according to the law of redintegration (§ 174). Thus we re-collect the former circumstances. From among these we may then choose one as a new object of attention, and repeating the process determine continuously the succession of the intellectual train.

---

[1] From such vague impressions Plato drew an argument for the pre-existence of the soul; and, indeed, it is easy to fancy that they are memories of a previous life, of another world. So Wordsworth, in his famous ode, "Intimations of Immortality": —

"Our birth is but a sleep and a forgetting;
The soul that rises with us, our life's star,
Hath had elsewhere its setting,
And cometh from afar.
Not in entire forgetfulness,
And not in utter nakedness,
But trailing clouds of glory, do we come
From God, who is our home."

The subjective correlative of will is desire (§§ 71, 74). An effort to recollect implies a want, it is an endeavor to gratify a desire, *e.g.* curiosity. But desire is conditioned on cognition. This implies that the thing we seek for intentionally in memory is not wholly out of consciousness, not wholly unknown. We cannot endeavor to recollect something of which we have at present no remembrance whatever. "We still hold of it, as it were, a part, and by this part which we hold we seek that which we do not hold."[1] Throughout the process, the effort is stimulated by the want, which at its close is satisfied, and both together cease.[2]

---

[1] Augustine, *Confessions*, lib. x, ch. 18.

[2] The process of recollecting may be illustrated thus: Suppose I wish to make a quotation, but have in mind only the first few words, "Take physic, pomp; —" I repeat this much over and over with close attention, but what follows does not recur. I then turn my attention to some associated circumstances, and fix on Shakspeare as its author. His name suggests the titles of his plays. I run these over in mind, and the fragment seems best suited to, or most familiar in connection with *King Lear*. I recall attentively one and another of the characters of the tragedy, and it strikes me as most likely that Lear himself would use such words. I then picture with attention his several situations, and the storm scene apparently connects with the words. I recall the image of the hovel, and the humiliated king stooping to enter it; then his words come in full to mind; I can almost hear him saying: —

"Take physic, pomp;
Expose thyself to feel what wretches feel,
That thou mayst shake the superflux to them,
And shew the heavens more just." — A. 3, sc. 4.

Says Aristotle: "When we accomplish an act of recollection, we pass through a certain series of precursive movements until we arrive at a movement on which the one we are in quest of is habitually consequent. Thus it is that we hunt through the mental train." Perhaps this suggested the comparison of Longinus: "For as dogs," says he, "having once found the footsteps of their game, follow from trace to trace, deeming it already all but caught, so he who would recover his past cognitions from oblivion must speculate the parts which remain to him of these cognitions, and the circumstances with which they chance to be connected, to the end that he shall light on something which shall serve him for a starting-point from whence to follow out his recollection of the others."

§ **189.** A distinction of some practical importance is that between circumstantial and philosophic memory. Circumstantial memory is dependent on accidental relations, such as the sensuous or superficial resemblance of things, their analogies, their contrarieties, their vicinity in time or place, or other insignificant coincidences. A philosophic memory is determined by essential relations, such as cause and effect, means and end, premises and conclusion, associating things by their scientific affinities and logical connection. The first is manifested by children, or by undisciplined minds generally, and seems more natural; the second is rather a result of intellectual education, and seems more artificial. The one is ready and quick, and often surprises us with its extent, variety, and minute accuracy of detail; the other appears sluggish, is complained of as defective, and fails in non-essential particulars. All minds make use of both; but with one class of minds the former, with another class, the latter, kind of memory is predominant and habitual.[1]

---

[1] In looking up a quotation, one person can tell whereabouts in the book it occurs, whether on the right or left hand page, and whether at top, middle, or bottom; another person recalls only its logical connection with the subject-matter of the book. A punster and a rhymster are engaged by accidental coincidences in the sound of syllables; a wit and a poet are occupied with the inner, subtile, and delicate logic implied in the expression. Magliabecchi, librarian to the Grand Duke of Tuscany, was asked to produce a certain rare book. "It is impossible," said he; "there is but one in the world, and that is in the Grand Seignior's library at Constantinople, the seventh book, on the fifth shelf, on the right hand as you go in." Montaigne, whose cast of mind was reflective and speculative, more tenacious of principles than of facts, complained of want of memory. "I am forced," says he, "to call my servants by the names of their employments, or by the countries where they were born, for I can hardly remember their proper names; and if I should live long, I question whether I should remember my own name."

All the great masters of human nature mark the distinction. Cervantes makes Sancho Panza, the boor, talk very circumstantially; but Don Quixote, the cultivated man, though crazed and absurd, is made to talk quite philosophically. But compare, especially, Hostess Quickley's speech before the Chief Justice, in *King Henry IV*, pt. ii, Act 2, sc. 1, with that of Lady Percy to Northumberland, sc. 3.

Circumstantial memory is often used specifically to strengthen bonds of the same sort, or to supplement philosophic memory, and confirm its more uncertain adhesions.[1] Mnemonics, the art of memory, *memoria technica*, is an expansion of this principle into a system. The possession of such artificial means accounts for many wonderful feats of memory. Very many systems have been devised, but they are of little value, the adhesions being only temporary.[2]

---

[1] The familiar doggerel, "Thirty days hath September," etc., is useful in its way. The word *vibgyor*, composed of the initials of the seven prismatic colors, helps us to remember them in their order. A quaint phrase serves a similar end; as, "Shakspeare died in the two sixteens," *i.e.* A.D. 1616. The scholastic logic abounded in mnemonic devices, the most famous and useful one being the hexameters beginning "Barbara, Celarent," etc.

[2] It is highly probable that such a system was used by Seneca, who boasts that on one occasion, two hundred unconnected verses having been pronounced in his hearing, he repeated them in reverse order. The feat of the law-student of Padua, cited by Muretus, and recited amazedly by Hamilton, *Meta.*, p. 421 sq., was doubtless of this sort, for he proposed to teach a fellow-student the art; hence his "*facinus mirificissimum*" is unworthy of so much sterile astonishment. Simonides, the Greek poet, 5th century B.C., invented a system which is described by Quintilian. When Simonides proposed to teach Themistocles his art, Themistocles, whose natural power of memory was such that he knew by name each of the twenty thousand citizens of Athens, replied: "I had rather you should teach me the art of forgetting." He had found that memory, like other gifts, is the curse of the gods when they give too much. "Si la souvenir embellit la vie, l'oubli seul la rend possible. Dieu a mesuré la peine à nos forces en nous donnant l'oubli." Sophocles pronounced memory the queen of powers, and the earlier Greeks affirmed that the nine Muses were the daughters of Zeus and Mnemosyne.

CHAPTER V.

IMAGINATION.

§ 190. The representative state, considered generically, is called an image, the act an imaging. Having thus far found these terms sufficient, we have reserved the word *imagination*, with its conjugates, *to imagine*, *imaginary*, etc., as exclusively applicable to the mode of representation now before us, co-ordinate with memory and thought.

Imagination is the representation of an ideal object. In this definition it is needful to explain the specific difference, ideal object. There are two spheres of cognition, or two kinds of objects of knowledge, the real and the ideal. The real object is one that truly exists either objectively, being given in perception, or subjectively, given in self-perception; or it is one that actually has been, and is now represented in memory. The unreal is that which does not, and perhaps never did, exist, a negation of the real, and so furnishing no object of cognition. Now, by the logical law of excluded middle, there can be nothing between the real and unreal; yet the mind has power to consider a real object as unreal, that is, to disregard the fact, and also power to form images or ideas representing things that are in fact unreal. Such objects are ideal objects, and the act representing them is imagination.

§ 191. In memory the representation is judged to be of a past experience; in imagination it is not so judged. In other words, the objects of memory are facts of experience; those of imagination may or may not be facts of experience, the question is not considered, the representation is in disregard of experience.

"Memory is an immediate knowledge of a present idea, involving an absolute belief that this idea represents another act of knowledge that has been. Imagination is an immediate knowledge of an actual idea, which, as not subjectively self-contradictory, but logically possible, involves the hypothetical belief that it objectively may be, that it is really possible."[1] Imagination is productive; memory is merely reproductive. The object represented in memory is real; that represented in imagination may be unreal. Memory is mediate knowledge of the actual in the past; imagination is mediate knowledge of the possible in the past, present, or future.[2] The ideas or images in both cases are real, but they differ in their origin and in their objects.

§ **192**. The sphere of the real is finite; that of the unreal is infinite. Mind trangresses the bounds of the real, and forms for itself ideal objects in the boundless unreal. But there are limits to its excursive power. That imagination is conditioned on memory is one limitation. Although it disregards experience, it cannot transgress the bounds of experience. At the furthest extreme, its images are combinations of partial experiences given by memory; it is only the combination that is new.[1] The limitation is not to objects of sight, nor in general to those of sense.[2] All presentations, external and internal, all sensations, emotions, desires, affections, volitions, and thoughts furnish, through memory, materials for imagination. Whatever can be remembered can be idealized. The true limitation is experience reproduced in memory.

---

[1] Hamilton, *Discussions*, p. 58, Am. ed.

[2] Were this power wholly lacking, we should be unable to devise for the future, or to anticipate and provide for even the next coming moment. All hope, all reasonable forecast of events, all inspired prophecy, the history of the future, are wrought out by imagination, and then become memories as time flows by. The young, says Aristotle, live forwards in hope, the old live backwards in memory. — *Rhet.*, ii, 12. The following lines of Shelley mark the distinction: —

"You are not here! the quaint witch Memory sees
In vacant chairs your absent images,
And points where once you sat, and now should be,
But are not. I demand if ever we
Shall meet as then we met; and she replies,
Veiling in awe her second-sighted eyes:
'I know the past alone; but summon home
My sister Hope, she speaks of all to come.'
But I, an old diviner, who know well
Every false verse of that sweet oracle,
Turned to the sad enchantress once again,
And sought a respite from my gentle pain,
By acting every passage o'er and o'er,
Of our communion."

A second limitation: Imagination, being representative of an intuition, is, like intuition, possible only on condition that its immediate object be individual. If we try to form the image of a triangle, it must be of some individual figure. To the individual is opposed the general. I can form no image of the general. The notion triangle can attain to generality only by surrendering distinct existence in space. Nature and fact do not present the general, but only individuals, having each a distinct existence in space or time.[1] My experience, then, is only of individuals; and as images are representations of experience, they are limited to individuals.

---

[1] "For it is not in the power of the most exalted wit or enlarged understanding, by any quickness or variety of thought, to invent or frame one new simple idea in the mind. The dominion of man, in this little world of his own understanding, is much the same as it is in the great world of visible things, wherein his power, however managed by art and skill, reaches no further than to compound or divide the materials that are made to his hand, but can do nothing towards the making the least particle of new matter, or destroying one atom of what is already in being." — Locke, *Essay*, bk. ii, ch. 2, § 2. Experience is the quarry whence memory draws the materials with which imagination (Ger. *Einbildungskraft*) builds.

Hume asks, however, whether one who had seen blue and yellow, but not green, would not be able to form an idea of green by compounding the others in imagination.

[2] We most readily represent visual objects, and this with surpassing clearness and accuracy, and so become slaves to the eye, — a despotism from which Pythagoras by his numeral and Plato by his musical symbols, as the first προπαιδευτικόν of the mind, sought to emancipate their disciples. See *Phædo*, 66 Ste. Some writers have so far yielded to this sway of the eye as to teach that imagination is limited to visual objects. So Addison, *Pleasures of Imag.*, *Spect.* 40; and Reid, *Intellect. Powers*, *Essay*, iv, ch. 1. Others teach that it is limited to objects of sense. So Stewart, *Elements*, pt. i, ch. 3; and also Descartes, who says: "Imaginari nihil aliud est quam rei corporeæ figuram seu imaginem contemplari." — *Med.*, ii.

The third limitation of imagination is common to all powers of knowledge. Every cognitive experience is conditioned on pure ideas and principles, discerned by reason, acting as regulative, or rather as limitative, of cognition (§ 151). These, then, set bounds that imagination cannot transcend. We cannot imagine a body out of space, or an uncaused event, or an absolute beginning or ending, or contradictories coexistent, or irresponsible personal actions. Beyond the sphere thus strictly circumscribed, imagination cannot pass. The light dove cleaving in free flight the thin air, whose resistance she feels, might think that her movements would be far more free and rapid in air-less space. But her flight fails from lack of support even in the rare regions, long before she reaches the invisible yet absolute limit, beyond which the lightest wing can never soar. So within a vast unmeasured region of pure ideas, the atmosphere of reality, imagination may play, but not beyond.

§ **193**. Within these limits, imagination shows various modes of activity. Certain differences fairly distinguish kinds; others seem to be marks rather of degree. One mode of exercise we will call the simple to distinguish it from the complex or productive imagination.

Simple imagination consists in the transfer of an object from the real to the ideal sphere. It represents an object that is real without reference to its reality, that is, in disregard of the fact; as, If the sun be now in the sky. Here a known reality is idealized; the matter is treated hypothetically. Another simple exercise is to idealize in spite of fact, taking the obverse of reality; as, Were the sun not in the sky. To realize is the converse of to idealize; it is to bring matter from the ideal sphere into the real; as, But the sun is now in the sky. The obsolescence of the subjunctive mood, which is the ideal mode of speech, indicates a common neglect of these distinctions.

---

[1] See Mansel, *Metaphysics*, p. 129.

§ **194.** From the individual objects presented to sense, external or internal, and represented in memory, thought abstracts qualities, and forms representative notions by combining them into new qualitative wholes; this is analysis and synthesis. From such individual objects, the complex or productive imagination severs parts, and forms ideas by recombining them into new quantitative wholes, into new individuals; this is dissection and construction. The objects thus represented are contingent or unreal, the only actual existence being the factitious images or ideas of the mind, representing what would be possible to intuition, and corresponding to objects merely hypothetical.[1]

Dissection and composition constitute one special exercise of the productive faculty. It may, however, merely alter proportions, or size, or motion, making transformations as to space or time. The former species is constructive imagination; the latter is plastic imagination.[2]

---

[1] Thus out of materials furnished by memory are constructed new geometrical figures, new mechanical inventions, palaces of pearl, satyrs and mermaids, all fabulous monsters and events, the novelties of prose fiction, the creations of poesy and art. For an excellent example of dissection and composition, see the description of Chimera by Homer, *Iliad*, vi, 144 sq.; and by Hesiod, *Theogony*, v, 322 sq.

[2] Hence the grotesque Caliban, the fantastic Touchstone, and the extravagant Parolles. Hence the Brobdignags and Lilliputians, the nut-shell car of Queen Mab (*Romeo and Juliet*, A. 1, sc. 4), the golden car of Juno (*Iliad*, v), and the great chariot of the Sun-god Phœbus. Time, space, and motion are its subjects. It expands a geologic cycle to myriads of centuries, compresses the stellar system to a celestial vault, and inspires Puck's prophetic brag: "I'll put a girdle round about the earth in forty minutes." — *Midsummer Night's Dream*, A. 2, sc. 1.

Are its productions creations? Is imagination creative? Creation is the bringing into existence what did not before exist. Bringing order out of

§ **195.** Other distinctions may be taken, determining varieties according to the relative predominance of co-operating activities. The first claiming our attention is characterized negatively by the absence of volitional control.

Involuntary imagination is spontaneous, without choice. Phantasy is an appropriate name for this variety. The phantoms that fright us in the dark, the spectral voices that we hear, the odd, ludicrous, and absurd ideas that strike us, are among its products. Phantasies have an instinctive origin. Mental instincts are the promptings of blind desires; that is, of such as are not directed by thought. These arouse imagination to a disordered activity, producing the fantastic. Phantasy, therefore, is characterized by the impulsion of desire in the absence of intelligent choice.[1]

Dreams afford familiar examples of phantasms. They have already been noted as involuntary memories (§ 187); but perhaps their images are less memories than new combinations, "wherein blind phantasy would fain interpret to the mind the painful sensations of distempered sleep."[2] Reverie, castle-building, or day-dreaming is a pleasing play of phantasy, not, however, altogether pure, since a fanciful purpose generally gives some voluntary direction to the combina-

---

chaos is a creation. Order, harmony, fitness, new proportions, new combinations into new wholes, are creations, and he who produces these is a maker, ποιητής, a poet. "Though there were many clever men in England during the latter part of the seventeenth century," says Macaulay, "there were only two great creative minds. One of those minds produced the *Paradise Lost*, the other the *Pilgrim's Progress.*" — *Essay on Southey's Bunyan.* Shakspeare, "l'homme qui a le plus crée après Dieu," out-doing history, has peopled his realm with immortals. The Black Prince was, but is not; Prince Hamlet was not, but is, and will be forever.

[1] From φαντάζειν, to cause to appear. Gurney defines a sensory hallucination to be "a percept which lacks, but which can only by distinct reflection be recognized as lacking, the objective basis which it suggests." — In *Mind*, No. 38, p. 163. This scarcely differs from illusion. See § 160, note. We take illusion to be the genus, and hallucination its species, differentiated by being abnormal.

[2] The will resigns control, and these sensations, together with appetites

tions. The craze of delirium and of monomania are extreme cases.[1]

§ **196.** Let us consider here, once for all, the relation of imagination to brain action. It has been scientifically ascertained that when the inner organ of sight is disorganized, it becomes impossible to image scenes; and we hold it generally true that all mental activities are specially conditioned on concomitant brain action (§ 143). Voluntary efforts of imagination doubtless require for their success a physical response, a corresponding molecular movement of the brain substance, probably that of the inner organ of the sense originally presenting such objects as are now represented.[2]

---

and other forms of desire, impelling blindly in the general torpor of intelligence, arouse imagination to unchecked extravagance.

> "When nature rests,
> Oft in her absence mimic fancy wakes
> To imitate her; but, misjoining shapes,
> Wild work produces oft, and most in dreams,
> Ill matching words and deeds long past or late."
> —MILTON, *Paradise Lost*, bk. v, 109 sq.

It is remarkable that the power of self-control seems to have so little reserve force that it is the first of our faculties to break down, not only in sleep, but in grief, in intoxication, in fever, in case of a stunning blow, etc. Other faculties continue active when this has completely succumbed. The torpor of volition during sleep is an important element in explaining the phenomena of dreaming.

[1] In reverie the imagination suffers but little restraint. Images assemble, form, and dissolve, not so much at will as at pleasure. It is the *dolce far niente*, the luxury of idleness. "La rêverie est le dimanche de la pensée." —AMIEL.

The generic character and difference of delirium and monomania come to light on comparing Otway's line, —

> "Lutes, laurels, seas of milk, and ships of amber,"

with Lear's pathetic words, —

> "What! have his daughters brought him to this pass?"

[2] "What is the manner of the occupation of the brain with a resuscitated feeling of resistance, a smell, a sound? There is only one answer that seems admissible: The renewed feeling occupies the very same parts, and in the same manner, as the original feeling, and no other parts, nor in any other assignable manner." —BAIN, *Senses and Intellect*, p. 338. See § 17, note 2.

It is certainly true that imaged activity always tends strongly to go out into real activity. When we image a leap, we are ready and disposed to spring; when we con over a proposed speech we are apt to break out with it aloud; a fancied blow causes one to start or dodge; and on this principle alone can we account for many varieties of involuntary gesticulation and facial expression, which it requires severe discipline to repress.[1] In all such cases the cause is mental, and brain change the effect.

The reverse is true in perception. Here the brain is active and the mind recipient. Probably this is the case also in involuntary memory and imagination; brain changes are the cause, mental images the effect. Certain molecular movements take place in an inner organ of sense confusedly along lines of preference established by habit, and these determine or cause a succession of corresponding mental images in more or less confusion and disorder. Hence a man dreams in character. Physical appetites also, as hunger and thirst, will direct and color a dream. Hence likewise the subjective effects of brain fever, and the extravagant visions of the opium eater.[2] All these are cases of neural disturbances determining mental images. Hence it appears that involuntary or spontaneous memory and imagination differ from perception in degree rather than in kind, it being no essential difference whether the movement of the sensory be determined by a physical habit, by the stimulus of fever or of opium, or by a normal influence passing from the outer organ along the nerve of sense to the inner sensory.

---

[1] Müller cites the following instances: "The mere idea of a nauseous taste can excite the sensation even to the production of vomiting. The quality of the sensation is the property of the sensitive nerve, which is here excited without any external agent. The mere sight of a person about to pass a sharp instrument over glass or porcelain is sufficient, as Darwin remarks, to excite the well-known sensation in the teeth. The mere thinking of objects capable, when present, of exciting shuddering, is sufficient to produce that sensation of the surface in persons of irritable habit." — *Physiology*, p. 945.

[2] The doctrine is not new. It occurs in the following: —

> "Lovers and madmen have such seething brains,
> Such shaping fantasies, that apprehend
> More than cool reason ever comprehends."
>
> — *Midsummer Night's Dream*, A. 5, sc. 1.

Observe also the accurate and happy use of the terms apprehend and comprehend.

Brain excitement in the cases of spontaneous memory and imagination is ordinarily of lower degree than in case of perception. Accordingly images are normally much less vivid than percepts.[1] It is by this different degree of vividness that we usually distinguish an image from an object proper; that is, from a sensorial excitement due to an extra-organic cause.[2] But when memory or imagination are extraordinarily aroused by a brain excitement correspondingly great, images may be as vivid as percepts, and then can be distinguished from them only by applying several senses as tests. The madman and the ghost-seer are conscious of objects which are truly external to self, though enorganic, and they mistake only in referring them to extra-organic causes.[1]

---

[1] Says Spencer: "Perceptions are vivid states of consciousness; memories are faint states of consciousness."

[2] Upon this ground we regard mental images in dreams, without doubt or question, as external realities. Descartes asks, "How do we know that the thoughts which occur in dreaming are false, rather than those other which we experience when awake, since the former are often not less vivid and distinct than the latter? Attentively considering these cases, I perceive so clearly that there exist no certain marks by which the state of waking can ever be distinguished from sleep, that I almost persuade myself that I am now dreaming." — *On Method*, pt. i. See also *Meditation* 1st, and *Principles*, pt. i, § 4.

Is it not conceivable, then, that hereafter we may awaken from life into some higher state of intelligence, and discover that what in life we took to be external realities were merely mental images? Is it not true that, —

"We are such stuff
As dreams are made on; and our little life
Is rounded with a sleep." — *Tempest*, A. 4, sc. 1.

Had we no other means than degree of vividness by which to distinguish the ideal from the real, we might be led by the idealist to doubt reality. When asleep and dreaming, we have no other means; but when awake there do exist very certain marks, overlooked by Descartes, which leave no doubt. The aroused and masterful volition applies the tests of various senses, and so determines the question. See § 164, last paragraph; but more especially see the chapter on External Reality, § 100 sq.

§ **197.** Returning to the varieties of imagination, we are now to consider what is commonly called the voluntary imagination. It is distinguished from phantasy in being governed by a purpose. This purpose is conditioned on and impelled by a desire, it may be a desire to feel, or a desire to know, or a desire to do, and imagination is made to represent accordingly. Hereon, then, we ground a subdivision of its modes. Impelled by intelligent desire and controlled by will, imagination may be exercised with special reference to sentiment, giving the artistic imagination; or with reference to knowledge, giving the reflective imagination; or with reference to performance, giving the practical imagination. The order here adopted is continuously progressive toward the real.

§ **198.** The artistic imagination, or that characterizing the fine arts, has two sub-varieties, or rather degrees, fancy and the poetic imagination. They have this in common, and are thereby distinguished from other varieties of imagination, that they have direct reference to sentiment, but more especially to the æsthetic feeling, aiming to excite the pleasing sense of beauty, and being governed by the æsthetic judgment conformably to the laws of taste. Their difference is one of degree.[1]

---

[1] When one's terrors conjure up a ghost, it is truly a visible thing, external to the seer, existing in his visual organ.

> "This is the very coinage of your brain;
> This bodiless creation ecstasy
> Is very cunning in." — Queen to Hamlet, A. 3, sc. 4.

Huxley, remarking the famous case of Mrs. A., detailed by Brewster in his *Natural Magic*, says, "Mrs. A. undoubtedly saw what she said she saw." — *Physiology*, p. 269. That is, as he explains, her retina was affected from within so as to present the image of an object which did not otherwise exist. Says Gurney: "In the most complete or 'external' form of hallucinations, a refluent current will pass downwards to the external organ, and the perception will be referred to the eye or ear, just as though its object were really acting on those organs from outside." — In *Mind*, No. 38, p. 191. Proofs are: 1st. Pressure on one side of one eyeball, or squinting, doubles the phantom. 2d. A hemiopic case, where only the upper half of a phantom was seen, the upper half of the retina being anopic. 3d. The surviving of dream-images into waking moments. This last was remarked by Spinoza, and observed by Müller. — *Physiology*, p. 945. Wundt suggests that, in case the phantom does not move with the eye, this centrifugal retinal stimulation is disproved. — *Phys. Psych.*, vol. ii, p. 356.

Fancy excites only the more delicate sentiments, and these delicately; poetic imagination aspires to awaken emotion and often soars to the sublime. The latter adheres more closely to the truth of nature, and is more severely logical; the former disregards the truth of nature, creating a new idea, a fairyland of its own, and submits to logic only so far as not to fall into the disorder and misrepresentations of phantasy. Thus fancy is an advance beyond phantasy in the movement from the impossible and absurd, toward the actual and real.[2]

---

[1] The Greeks used φαντασία to designate both, but modern usage distinguishes them. Wordsworth, in the preface to his *Lyrical Ballads*, marks clearly the difference. See also Trench, *Study of Words, ad verb*. Previously Addison confused them. — *Spect.* No. 40. Afterward Coleridge went to the opposite extreme, affirming that "fancy and imagination are two distinct and widely different faculties." — *Biog. Lit.*, ch. 4.

[2] Shakspeare strikingly marks this triple gradation in the famous and familiar speech of Theseus in *Midsummer Night's Dream*, A. 5, sc. 1.

Fancy finds play not only in literature, but in all the fine arts. It condescends to a lower plane, and appears in conversation, in dress, and in the decorative arts. It revels in associations that are remote, arbitrary, and capricious, and so indulges in whimsical conceits and prettiness. Cowley's genius was fanciful, Milton's imaginative, Shakspeare was lord of both realms. The *Midsummer Night's Dream* is a perfect example of the fanciful, wherein imagination moves on a wing as light as Ariel's. Fancy is always more nimble than strong, more gentle than bold, more witty than wise. The goddess of wisdom sprang from the head of Jupiter. A little song in Shakspeare asks: —

"Tell me where is fancy bred,
Or in the heart, or in the head?
How begot, how nourished?
Reply, reply."

Goethe answers: "Fancy is the ever-moving, ever-new, Jove's loveliest daughter, child of his heart."

§ **199**. The higher degree of the artistic imagination is called the poetic imagination. The word poetic must be here understood as excluding the merely fanciful, and as including much of prose fiction and of mimetic fine art.[1] Governed by laws of taste more exacting, more nearly connected with reason, the poetic imagination is closely observant of nature, heedful of truth, and submissive to logical sequence.[2] It is popularly supposed to disregard or even defy logic; whereas it is strictly logical. Throughout every poem must run a continuous thread of logical sequence, however concealed, to give it cohesion and unity, and in the truly great poems there is a reason assignable, not only for every word, but for the place of every word, just as there is likewise one for every curve in a statue, for every hue in a painting, and for every passing note in a sonata.

§ **200**. Next in the approach toward the real, is the reflective imagination. It is so called because it especially relates to thought in the search for knowledge. Herein imagination submits to yet closer bonds. Regardless of sentiment, it seeks neither the beautiful nor the sublime, but harnessed by logic, and driven by desire to know, it labors after truth, which when ascertained it strives to represent with clearness and fulness.

---

[1] Poetry and music coalesce in song, and it is admissible to say that the symphonies of Beethoven are tone poems, that the Cupid and Psyche of Canova is a marble lyric, and that the Vatican frescoes of Raphael are the epic of the Church.

[2] Both fancy and the poetic imagination are creative. "Imagination, in the sense of the poet," says Wordsworth, "has no reference to images that are merely a faithful copy, existing in the mind, of absent external objects, but is a word of higher import, denoting operations of the mind upon these objects, and processes of creation or composition governed by fixed laws." — Preface to *Lyrical Ballads*.

The German calls a poet a thinker (*Dichter*, related to *Denker*), and poetical power the power of thought (*Dichtungskraft*). Some one has said that high art is deep metaphysics. Whether it be in poetry or music, in painting or sculpture, the triumph of the artist lies, not in presenting us with a transcript of things that may be seen or heard or handled in the world around us, but in carrying us across the gulf which separates the real from the ideal, and placing us in the presence of the truly beautiful, and surrounding us with an atmosphere more pure than that which the sun enlightens. "For, with the exception of the self-existent Being," says Rousseau, "there is nothing beautiful but that which is not."

Reflective imagination, like the artistic, has two degrees. The first let us call the philosophic or scientific imagination. This is largely occupied in representing the hypotheses of thought in its tentative excursions. It images conceivable possibilities relative to the question in hand, which thought scrutinizes and adopts or rejects according to the facts; as Huygens' hypothesis of a vibrating luminiferous ether filling space was adopted in place of Newton's emission hypothesis. Moreover, when thought reaches its conclusion, imagination pictures it in full, filling up the outlines, supplying accordant circumstances, enlarging perhaps beyond the strict limits of ascertained truth.[1]

---

[1] The geometrician figures before his mind's eye an original construction to which his theorem applies, and then varies its proportions from limit to limit, and combines it with others, thus testing its consistency and its applications. D'Alembert says that, of all the great men of antiquity, Archimedes is, in respect of imagination, best entitled to a place beside Homer. The historian reasons on the circumstances of an event, and depicts the results in a detailed description. Macaulay's fine historic imagination renders his style autoptic. The astronomer discovers a new law, and in applying it, perfects by imagination his knowledge of the mechanism of the heavens. The human body, by the power of imagination, becomes transparent to the eye of the anatomist; the frame of the earth, to the eye of the geologist.

Unless held under severe check, the philosophic is very liable to return into the poetic imagination. The most illustrious example is Plato, whom Panœtius calls the Homer of philosophy. Aristotle pronounces his system of ideas a collection of poetical metaphors. "Abandoning the world of reasoning, because of the narrow limits it sets to the understanding, he ventured," says Kant, "upon the wings of ideas beyond it, into the void space of pure intellect." — *C. P. R.*, Int. § 3. "Nothing is more dangerous to reason," says Hume, "than flights of imagination, and nothing has been the occasion of more mistakes among philosophers. Men of bright fancies may, in this respect, be compared to those angels whom the Scriptures represent as covering their eyes with their wings." — *Treatise of Human Nature*, bk. i, pt. iv, § 7.

§ **201.** The second degree of the reflective imagination corresponds pretty closely with what Aristotle calls "the deliberative imagination." It is still more confined than the first, representing in a concrete image merely and strictly the attributes that constitute a thought, and thus operating to embody the thought while testing its logical possibility. Its importance is inestimable. Its special consideration is postponed to the next topic, Thought, with which it is so intimately related (§ 214).

§ **202.** Still nearer to the reality stands the practical imagination. The bounds are here greatly narrowed. Phantasy is checked only by the bare necessities of intellect; fancy is more orderly; the higher poetic imagination still more closely conforms to nature; philosophic imagination represents what is moreover regarded as true; but practical imagination is confined to what may also become actual fact. These wide extremes, the possible idea, and the possible fact are the bounds of imagination.

In the practical imagination, also, we distinguish two varieties. The first forms ideas of actions; the second, ideal standards of actions. Of these in their order.

The first variety bears a special relation to volition. It is that mode of voluntary imagination which has for its object voluntary activity tending directly to realization. Every outward activity requires that we should previously construct its image. I cannot pick up a pin, or stick one in my dress, or take a seat in a chair, or reach for a book, without a prior image of myself as doing these acts. So in all things small and great, from the plucking of an apple, to an Alexandrine conquest. This variety of the practical imagination is implied in all provision; it is prerequisite to every desired end, to every step of prudence, to every act of duty.[1]

---

[1] I cannot pen a syllable without first imagining that syllable, and myself as writing it; then my pen traces on the paper the form which imagination has already imprinted there. The mechanic who invents a machine must

A sharp limit is set to this exercise of imagination by a certain judgment and belief. Any one may easily imagine himself leaping over a house, but knowing that he cannot, believing it impracticable, this is merely a bizarre fancy, and not the practical imagination. To be the latter, the action imagined must be regarded as possible. I cannot even attempt what I judge and believe to be impracticable. An insane man might try to leap over a house, but it is impossible for a sane man to try. No matter how intense may be my wish that it were possible for me to do a thing, I must not only imagine the doing it, but also must believe, rightly or not, at least that perhaps I can do it, before I can make the effort. An actual effort, unsustained by this judgment and belief, is a psychological impossibility.[1]

---

construct it in imagination before he can realize it in wood and iron. If a mountain is to be tunnelled, the engineer must devise the means; if a river is to be bridged, he has already marked the progress of the work while yet the timber is in the forest and the metal in the mine. The merchant in his counting-room plans distant voyages; the general in his solitary winter quarters maps out the next summer's campaign. The artist who paints a fresco, or carves a statue, or builds a temple, has devised mentally before he produces manually; his representative ideas exist before they are embodied in representative things.

> "Such tricks hath strong imagination,
> That if it would but apprehend some joy,
> It comprehends some bringer of that joy."
> — *Midsummer Night's Dream*, A. 5, sc. 1.

The work presupposes, first, the artistic imagination to compose, then the practical imagination to devise, and then the manual skill to execute. If any one of the three is defective, the work is marred. In general, the ability to frame practical images of what one would do, to plan one's conduct and action, is the mark of an efficient character; to do so promptly on emergency is presence of mind. Executive talent is little else than another name for practical imagination. He who has none, or does not exercise what he has, blunders along through life, and is the victim of accidents. He leaves his teaspoon standing in his cup, sets down a coal-bucket at the head of the stairs, packs his trunk on the assumption that it is to continue right side up throughout his journey, is too late for the train, demands his dinner in less than five minutes, and neglects to write proper names, especially his own, with absolute plainness.

[1] The belief that I can do a thing may be a delusion, but while the delu-

§ **203**. The second variety of the practical imagination is the forming of ideals. We have spoken of the ideal sphere of cognition in opposition to the real, and of all objects of imagination in general as ideal objects (§ 190). But the noun ideal has acquired a specific sense. It designates an idea proposed by the mind for imitation or attainment, a paradigm or standard or model of perfection in things or actions which invites realization. We frame an ideal of whatever is capable of various degrees of excellence by collecting in one the best elements of many, thus representing the highest extreme of an idealized perfection. This then affords a standard towards which we strive, and by which we measure the realized fact.

In its psychological character an ideal seems to hover between an idea and a concept. That it is a representation of something which we endeavor to make real, marks it as a product of practical imagination. That it is constituted of

sion lasts I can try. But if in fact the thing is easy, yet my delusion now is that I can't do it, then it is impossible for me to try. The child at school who says, "I can't," and believes it, says true, no matter how easy the task may be; and it is sheer cruelty to enforce a simulated effort. The inefficiency of a hopeless disposition is proverbial. We exhort youth to attempt great things. The words are idle, unless he is convinced that to him great things are possible. "Possunt posse quia videnter." — VIRGIL. The underestimate of one's powers by just so much retrenches efficiency; whereas some overestimate, which is likely to be corrected by failure, will bring out their full strength.

Another psychological fact should be here noted. All the ideal within the described limit strives to cross the opposite limit, and pass into the real. It lies deep in human nature that whatever is vividly conceived, it strongly tends to produce. Imagination reacts to strengthen desire, which urges realization, and we are impelled to accomplish in fact what we image in vision. Looking down a precipice suggests so forcibly the idea of falling, that an effort of self-control is requisite to keep one's self from acting it out. Cherishing merely the thought of a crime will bring forth the crime. Brooding on the idea hatches the thing. If virtue be teachable, it is here. Inflame imagination with its charms, and it will become a life. Fill the mind with great thoughts, and they will become great deeds. The subjective evolves the objective. The human mind represents a Utopia, and struggles to realize it. The Divine Mind conceived a kosmos; the universe appeared.

qualities abstracted from various sources, which collected in one have an application more or less general, assimilates it to a product of thought. Hence we may properly be said to conceive an ideal; whereas we do not properly conceive, but frame or form an image or idea.

An artist selects and assembles in one whole the beauties and perfections which are found in different individuals, excluding everything defective or unseemly, so as to form a type or model of the species. His artistic imagination proposes some particular composition, but his practical imagination has already conceived something higher, towards which he strives, to which he would make his production conform. This is the *beau ideal*, in a sense critical and æsthetic, a type of the beautiful in hypothetical perfection.[1]

Perhaps every man forms ideals of character and conduct. We set before us standards of personal attainment, physical,

---

[1] In illustration of the Platonic meaning of παράδειγμα, or an ideal, Cicero tells us that Zeuxis had five of the most beautiful women of Crotona as models, from whom to make up his picture of a perfect beauty. — *De Inventione*, ii, 1. Thus he hoped to realize his ideal. Elsewhere Cicero observes that there is nothing so fair but that a fairer may be conceived. We can, for example, conceive of statues more perfect than those of Phidias. "Nor did this artist, when he made his statue of Jupiter or of Minerva, contemplate any one individual from whom to take a likeness; but in the depth of his soul resided a perfect type of beauty, on which he gazed, and which guided his hand and skill — *ad illius similitudinem artem et manum dirigebat*." — *De Oratore*, ii, 9. "Thus his ideal is the artist's object of passionate contemplation. Assiduously and silently meditated, unceasingly purified by reflection and vivified by sentiment, it warms genius and inspires it with an irresistible need of seeing it realized and living." — COUSIN, *Du Vrai, du Beau, et du Bien*, 8me leçon.

It can hardly be doubted that the Platonic theory of ideas originated in the contemplation of these natural products, the ideals of the human mind. For an account of their historical genesis, see Aristotle, *Meta.*, i, 6, 9. To whatever may receive a common name, there is posited an answering idea; or, as Aristotle says: "Plato places an idea to every class of being." — *Meta.*, xii, 3. Notwithstanding this generality, the Platonic idea is an individual, εἶδος, formed of the essence of individual things. Æsthetically and ethically it is perfect, and to it the corresponding realities, εἴδωλα, remain perpetually inferior. It is the archetype or pattern, παράδειγμα, to which things conform, intellectual, or moral. The early visions of hope and the romance of reverie build ideals of excellence towards which we longingly struggle, to which we aspire to conform. What a man most admires in character is a sure index, if not of what he is, at least of what he would become. If his ideal be pure and true, then it is his guardian angel, ever leading him to something higher and better.

The ideal of the artist once conceived, all his works, though increasingly beautiful, are mere idols; that is, rude images of a superior beauty which they fail to realize. So also, tell me of a noble action, and I will instantly imagine one still more noble. The ideal is ever higher than achievement. It flies before the real like a shadow, never to be overtaken; it is the unattained and unattainable paradise of our despair. "Continually receding as we approach, it expands at last to the infinite, to God; for the true, the absolute and the complete is God himself. L'idéal, violà l'échelle mysterieuse qui fait monter l'âme du fini à l'infini!"

---

by which they are realized, toward which they ascend. The individual things have necessarily a participation, *μέθεξις*, in, or are an imitation, *μίμησις*, *ὁμοίωσις*, of the idea. The idea, though existing independently, *αὐτὸ καθ᾽ αὐτό*, has also a certain community, *κοινωνία*, with things. It is in some sense present, *παρουσία*, in them, but yet complete in itself. See *Sophistes*, 256 A; and *Parmenides*, 132 B.

CHAPTER VI.

THOUGHT.

§ 204. Thought is representation by means of a notion. Thus by thinking I form a general notion to which I give the name lily, and this notion is representative of many individual lilies. In another aspect to think is to determine a logical subject. Thus when I see a lily, I consider that its needs are all supplied, that it toils not, neither does it spin, that it is gloriously arrayed, etc. Here the subject, lily, is in several respects determined. By these considerations I know it more intimately, by these it is distinguished from a great many other things. All that can be said of the subject is but a continuation of this process; and each affirmation or denial is a thought.[1]

---

[1] Even in scientific treatises the words *thought, to think*, etc., are commonly used very widely, not to say loosely. In Descartes, for example, *cogitatio* or *pensée* denotes "all that in us of which we are immediately conscious. Thus all the operations of the will, of the imagination, and senses, are thoughts." — *Resp. ad Sec. Obj.*, p. 85, ed. of 1663. Cf. Hamilton in *Reid*, p. 222, note. So Wundt. With him thought, *Gedanke*, is a state of consciousness in general; but he regards every such state as reducible to a single fact, *i.e.* to reasoning or inference, *Schliessen*. This is his fundamental position. See his *Physiologische Psychologie*, p. 714. Without offering here any opinion respecting this doctrine, we restrict thought by definition, and treat it as a distinct faculty or activity.

It has a variety of synonyms; *e.g.* discursive faculty or discursive reason, as opposed to pure reason (Plato, Kant; see § 113, note), comparative faculty, faculty of relations, elaborative faculty (Hamilton), faculty of comprehension, faculty of understanding (*Verstand*, Kant), for one understands a thing when he makes it stand under a class.

We prefer the word *thought*, Anglo-Saxon *theaht*, N. H. Ger. *Bedacht, Gedanke*, a mental putting or bringing together of things, from *denken*, to think, related to *dichten*, to compose, and so to *dicht*, compact, and *dick*, thick.

The word *notion* occurs in the foregoing definition. We use it generically to designate products of thought, and these only, and therefore as opposed to the idea or image. Notions are either marks or concepts. Marks are the various qualities or attributes of an object analyzed by thought. A concept is the result of the act of conception, or the act of grasping together into one the various marks which characterize an object.[1]

§ 205. It is obviously a primary condition of thought that there should be an object or objects presented or represented by the subsidiary faculties. These must furnish the crude material out of which thought elaborates the concept. In this exercise three elements or operations or movements are logically distinguishable, — abstraction, generalization, and conception.

Abstraction is simply withdrawing the mind from other objects by fixing attention on one. Thus, if I consider a personal action, and observing that it is generous, fix my attention on that, thereby withdrawing my mind from all concomitant attributes, consciousness is abstracted from these by concentrating upon the one, the generosity. Abstraction

---

Thus *think* comes from the same original root as *thick*, the *n* (not found in *thought*) being merely casual. In thinking we thicken by uniting many in one.

[1] Both psychology and logic treat of thought; the former treats of it *inter alia;* the latter exclusively. Yet these sciences taken strictly do not intersect; each has its special point of view. Psychology views the act and product of thought in their relation to mind. It inquires *a posteriori* into the phenomena of thought, seeking their explanation and laws. Logic views the product of thought without reference to the producing mind. Starting with axioms, it demonstrates *a priori* the laws that govern the process, and whose violation nullifies thought. Psychology is the natural history of thought. Logic is the theory of thought. See Mansel, *Prolegomena Logica*, ch. 9. Herbart says: "Die ganze reine Logic hat es mit Verhältnissen des Gedachten zu thun; aber überall nirgends mit der Thätigkeit des Denkens, nirgends mit der psychologischen Möglichkeit desselben." — *Psychologie als Wissenschaft*, th. ii, § 119.

then is the act whereby consciousness is withdrawn from other qualities of an object, or from other objects, by concentrating upon one.

It has already been pointed out (§ 87) that attention and abstraction are psychological correlatives, the one the positive, the other the negative, aspect of the same act. In the psychological and negative view, we are understood to abstract or draw away the mind from certain features of objects presented, *abstrahere mentem a differentiis*. In the logical and positive view, we are said to abstract certain portions of a total cognition from the remainder, *abstrahere differentias.*

Mental dissection differs from abstraction. Abstraction relates to qualities, dissection to quantities. It separates a whole into its quantitative or mathematical parts, as head, trunk, and limbs. It seems to be a movement of imagination rather than of thought. Quantitative parts, however, may be and often are viewed as qualities, and then are thoughts, as vertebrate and invertebrate.

§ **206**. The process of abstraction is analytical, and the result is the separation of a quality or attribute of a thing or of an event from those with which it is really or in fact concomitant. This product, which truly has no independent existence whatever, is viewed mentally as though it were in itself an independent thing. Hence a simple abstract notion is a mark considered as a thing.

The name of a quality in the concrete is an adjective noun, and is always grammatically dependent; as, Solomon the wise. The name of a quality in the abstract is a substantive noun, and may be the subject or the object of a proposition; as, Wisdom is the principal thing, therefore get wisdom. Such abstract notions are primarily thought of as peculiar, and may or may not be generalized. Particular marks or qualities are *individua signata*, belonging to this one thing and to no other. They may be taken abstractly, but are not susceptible of generalization.

§ 207. The second function of thought is generalization. Upon abstracting qualities from two or more objects we may be struck by the similarity of the qualities. If so, we simplify and unify the cognitions by thinking the similar qualities to be the same. For example, this paper, the wall, chalk, and snow are each of them white. Similar qualities are those that stand in similar relation to our organs and faculties. When the similarity is complete, the effects which they determine in us are indistinguishable. What we cannot distinguish are to us virtually the same, that is, they are subjectively to us precisely as if they were objectively identical. The same, accordingly, we consider them to be, though really in different objects. This act, to think the similar the same, to consider a plurality a unity, is the essence of generalization and is a fundamental fiction of thought. The several objects whose mark has been generalized, we comprehend under a common concrete name; *e.g.* white thing. The generality of this name consists solely in that it is applicable indifferently to any one of the objects it comprehends. Hence generalization is the act of comprehending in one notion several objects agreeing in some quality which we abstract from each of them, and which the common name serves to indicate.

§ 208. The third operation of thought is conception. It may occur immediately upon abstraction; that is, without generalization. When a number of marks have been abstracted they may be collected by thought into one notion. This is the act of conceiving or of conception, and the complex notion thus obtained is the concept. A concept, then, is a union of marks in one notion; or, we may say, a concept is a bundle of marks.[1]

Every object presented to the mind has an indefinite plurality of marks. Observation can make many known to us, but our knowledge, though constantly increasing in fulness and complexity, can never become complete. Indeed, the limited powers of the mind cannot take in at once all those marks whose presence is known. A representation becomes confused when we attempt to grasp or comprehend in one notion more than a very few of them. Giving up the attempt, we form a concept of the thing, embracing comparatively few of its ascertained marks, making selection of such as are distinctive and essential. This is a singular or particular concept. It is complex, but not general. To it we may apply Esser's definition: A concept is the representation of a thing through its distinctive marks.[1]

---

[1] To conceive, from *con-capere*, to grasp together; Ger. *begreifen, Begriff*, allied to Eng. *grip, grab, grasp, group.* "A collection of attributes, united by a sign, and representing a possible object of intuition." — MANSEL.

The particular concept is potentially general,[2] and may become actually so by being generalized.[3]

On the other hand, if instead of particular marks I have a number of common marks, that is, marks each of which has already been generalized, these may likewise be conceived together, and constitute at once a complex general notion, general by virtue of the factitious generality of each one of its constituents.[4]

---

[1] In this way one forms a notion of historical characters, *e.g.* of Socrates, of Cæsar. In like manner every man forms a notion of himself, often altogether erroneous.

[2] Unless it involve a peculiar mark, as Cæsar, the conqueror of Pompey. But even in such case there is no logical objection to the ancient supposition that the whole history of mankind is constantly repeated from recurring epochs, and so the name and actions of Cæsar or Achilles will be found in several individuals at corresponding periods of every cycle. See Virgil, *Eclogue*, iv, 34 sq., and Eccl. 1:9; also Mansel, *Proleg. Logica*, p. 70, and Mill, *Logic*, p. 250, Am. eds.

[3] For example: If I consider the several marks of the apple which I hold in my hand, that it is vegetable, seed-bearing, edible, sugary, spherical, etc., and, grasping these marks in one notion, thus form a notion of this apple, then I have a particular concept of it. Afterward I observe that a similar bundle of marks may be formed from other apples; also from an orange, a peach, a pear, a cherry, etc. Consequently, I consider these several similar concepts to be the same, *i.e.* I generalize, and call this complex general notion by the common name fruit.

[4] For example: I take the following marks, each of which I have separ-

The general notion, perfected as to its content, is the ultimate product of thought. Hence to think is to conceive, is to form concepts, and a concept is a mental combination, or reduction to unity of the similar qualities or marks of objects of thought. It is true that it involves the representation of a part only of the various marks, attributes, or characters of which the individual object is the sum, and therefore affords only a one-sided and inadequate knowledge of things. This inadequacy is a consequence of the limited power of mind, which must accept a small part as the whole of a thing, and so resort to a fiction in order to comprehend, even in an imperfect manner, a plurality of things.[1]

§ **209**. A process subsidiary to thought is denomination or naming. The uniformities of things embraced in concepts would quickly escape us, if we did not fix and ratify them by sensuous signs.[2] "A sign is necessary to give stability to our intellectual progress, to establish each step in advance as a new starting-point for our advance to another beyond. A country may be overrun by an armed host, but it is only conquered by the establishment of fortresses. Words are the fortresses of thought. In tunneling through a sandbank it is impossible to succeed unless every foot, nay, almost every inch, in our progress be secured by an arch of masonry, before we attempt the excavation of another. Now language is to the mind precisely what the arch is to the tunnel. The power of thinking and the power of excavating are not dependent

---

ately thought as common to many individual things: self-luminous, sparkling, celestial, very distant, relatively fixed, etc., and form a concept of star. This complex notion is applicable to a host of things, for of many individuals each has all of these marks. The notion is, therefore, general by virtue of the generality of its several constituents.

[1] See Hamilton, *Logic*, § 21.

[2] See Mill, *Logic*, bk. iv, ch. 3. A uniformity is a notion of resemblance; hence general names or terms, the signs of general notions, have been called *termini similitudinis*. Every common noun, as *man*, *tree*, *fruit*, *star*, is a sign and expression of a concept.

on the word in the one case, nor on the mason-work in the other; but without these subsidiaries, neither process could be carried on beyond its rudimentary commencement."[1]

§ **210.** An important subsidiary fact is that every concept comprehends, on the one hand, a number of attributes or marks, and, on the other, extends to a number of objects or things. Thought reduces many marks to unity, comprising them in one product, and many things to unity, including them under that product, the concept.[2] The sum of the marks connoted is the intension of the concept; the sum of the things denoted is its extension. Hence the concept has a kind of two-fold quantity: first, the number of marks constituting its connotation, comprehension, intension, *quantitas complexus*, or depth, *βάθος*; secondly, the number of things constituting its denotation, extension, *quantitas ambitus*, or breadth, *πλάτος*.

It is evident that if the number of marks in a concept be diminished, it will extend to a greater number of things; and if the marks be increased, it will extend to fewer things.[3] When we think marks in, we think things out, and *vice versa*. Hence the general law. The greater the intension, the smaller the extension; and the smaller the intension, the greater the extension. Or, more briefly; the two quantities of the concept are in inverse ratio.

---

[1] Hamilton, *Logic*, § 23. See also Brown, *Phil. of Hum. Mind*, Lec. 47. "Without the use of such signs," says Stewart, "our knowledge must have been confined to individuals, and we should have been perfectly incapable both of classification and of general reasoning." But the thought must be before the word. Advanced thinkers exploring the unknown must be independent.

> "Words are but the under agents in their hands;
> When they are grasping with their greatest strength,
> They do not breathe among them."

[2] Thus my notion man comprehends the marks rational, sentient, organized, existing; and contains under it Aristotle, Cæsar, Kant, Napoleon, and all individual men.

[3] Thus the concept bird connotes the marks feathered, winged, biped, etc., and denotes and is predicable of many individual things; whereas the concept swan has more marks, as, web-footed, etc., but denotes fewer individual things.

§ **211.** We are now prepared to observe that generalization is classification. By thinking a mark as common to several individuals, we thereby constitute a class containing them. Indeed, every common noun is the name of a class of things, and concepts are often and properly called class notions.

We do not, however, stop at a first generalization. On comparing two or more given class notions we reject their differences to form still another more general concept.[1] The operation is repeated until we arrive at an absolute limit in the notion of being or thing, which connotes only one mark, existence, and denotes everything. This process is called *par excellence*, generalization, but since it is the forming of genera by uniting species, it is also called generification.

Reversing the process, we restore the differences and proceed towards the individual, which is the limit, connoting an unlimited plurality of marks, and denoting only one thing.[2] This process is called division or determination, and since we are herein forming species by subdividing genera, it is also called specification.

Thus it is that thought forms classes of things and of events. The systems thereby elaborated are wholly subjective, existing only in the mind of the thinker, and are determined chiefly by the purpose he has in view, and the utility of certain relations for certain ends.[3] Thought is constantly and exclusively occupied with the discovery of the relations of things or of events, and with the arrangement of them in classes. Observed uniformities in things give genera, observed uniformities in events are formulated as laws. The perfection of a system of classes is the perfection of knowledge.

---

[1] Thus by abstracting from the different while retaining the similar marks in the several general notions, bird, beast, fish, reptile, man, and thinking the similar the same, I form the concept animal. This genus has fewer marks than any one of the species, but it contains under it a greater number of individual things.

[2] Taking the concept animal, for instance, we bring in the mark rational, which throws out all animals except man. Then suppose we bring in the mark born in Virginia. This excludes the bulk of mankind, and we have the concept Virginian. Now bring in *pater patriæ*, and we have Washington.

[3] In civil affairs one would never divide mankind into horsemen and footmen, but from a military point of view this distribution is important. Certain

§ **212**. Let us now examine the process and product of thought under a different aspect, and with a somewhat varied terminology. It has already been noted that every act of cognition involves the shock of similarity and difference, that this is essentially comparison, and that the issue of comparison is a judgment (§§ 59, 80). Hence every movement of the cognitive consciousness, from the primitive affirmation that I am, to the most fully elaborated cognition, is a judgment.

Judgments are of two kinds, intuitions and inferences. The intuitive judgment is original, the other is derived. In the intuitive judgment the matter is given already determined. An inference determines its matter. The one is the psychological, the other the logical judgment. The latter only is a thought.

The striving of thought has two directions. It strives either to attain universal judgments respecting things and events, or, on the contrary, to bring these under such comprehensive notions as may have been already attained. Hence inferences, or logical judgments, or simply judgments, are of two kinds, inductions and deductions.

An induction is a generalization from and beyond experi-

natural relations give order to the classes of objects for purposes of natural science; but the only strictly necessary principle of distinction between objects is the numerical diversity of individuals, all other divisions being, in some sense, arbitrary and artificial. The naturalist may class man and the ape together as having hands; the moralist will place them far asunder as rational and irrational, responsible and irresponsible. But no system can possibly make Socrates the same individual as Plato, or regard an act of yesterday as numerically one with an act of to-day.

ence, whereby I bring in (*in-duco*) unobserved facts, and class them with observed facts. Thus I attain universal judgments based upon experience. But this wide generality is precarious; exceptions may always conceivably occur. This characteristic uncertainty is spoken of as the hazard of induction (§ 121).

Having attained universals, thought proceeds to deduce from them judgments either equally or less general. Deductions are of two kinds, immediate and mediate or reasoning. The development of their forms belongs to Logic.

The *a priori* sciences, as pure mathematics, proceed from intuitive universals or pure principles, and employ deduction only. The *a posteriori* or empirical or inductive sciences, as physics, chemistry, etc., proceeding from facts of observation and experiment, attain universals by induction, and then employ deduction, inferring from these universals special or particular cases.

§ **213.** It will be well to remark here the relation in which judgment and conception stand to each other. A slight consideration shows that they are essentially identical; related as merely different aspects of the same thing. When an object is presented, I proceed to think it distinctly by analysis and synthesis. I abstract its qualities in succession; this is analysis. I affirm of each that it is a mark of the thing; this is synthesis, and the affirmation is a judgment. If these marks are collected and reduced to unity by an act of conception, I therein affirm or judge that they are congruent, and that this unity characterizes the thing. In generalizing, I affirm a mark or a concept to be common to several objects. Hence, each of the three movements in conceiving is a judgment. So also in classification, when I am systematizing my concepts. To think marks in is to affirm, to think them out is to deny.

Every concept, then, is an implicit judgment. It is the product of a foregone judgment or judgments recorded in a word or sign, and it is amplified only by judging, by thinking other attributes into it. On the other hand, every judgment is an explicit concept. It is either the result of analyzing a concept into its original components, an analytic judgment, or the act by which a new attribute is for the first time annexed, a synthetic judgment.[1]

§ **214**. Having examined the two general aspects of the process of thought, conceiving and judging, it is now needful to consider the relation of thought to other powers.

It is sufficiently obvious that if the objects thought about are not themselves present to sense, the thinking is conditioned on memory. Thought limited to objects actually present has very little range. Excepting this narrow case, memory furnishes the materials for the elaboration of thought, and thus becomes, in general, its condition.[2]

The relation of thought to imagination is less obvious. The concept is representative of the objects of intuition from which it was originally derived, and whose place it occupies in the further processes of thought. "In one respect, indeed, conception may be regarded as representative in a stricter sense than imagination. Imagination, though representative, is presentative also, and so far has a close affinity to sense. It is presentative of the image, which is itself an intuitive object as well as representative of the object of sense. But the concept, so far as its objects are concerned, is purely representative. It presents nothing on which the mind can rest as an adequate object of consciousness, nothing which is not in its nature incomplete and relative, nothing, in short, but the fact of thinking. Pure thought, if by that expression is meant the consciousness of general notions and of nothing else, is an operation which perhaps may be possible to higher intelligence, but which never takes place in the human mind."[1]

---

[1] For the Kantian distinction of judgments, as analytic and synthetic, see *Critique of Pure Reason*, Int., § 4.

Also observe that a mark is potentially a concept, and a concept is potentially a mark. A concept is expressed by a substantive noun, a mark by an adjective noun; and the interchange of these grammatical forms is frequent, *e.g.* man is a mortal, and man is mortal. The distinction consists in the use made of the notion; if used denotatively, it is a concept; if used connotatively, it is a mark.

[2] On the relation of these several activities it is noteworthy that in the exercise of sensuous intuition, *i.e.* of perception, there is an affirmation of distinct present existence (§ 98); in memory, the affirmation of past existence; in imagination, of potential existence; in thought, of relative existence; that is, on the hypothesis of the present, past, or possible existence of two objects, thought affirms or denies the existence of a relation between them.

Thought being thus purely representative, relies upon an object, presented either by sense or imagination, which embodies its conception. Imagination presents an image, and it is this image on which the mind rests as an adequate object of consciousness, and it is by virtue of this image that it is enabled to elaborate and comprehend the concept. Thus thought is conditioned also on imagination.[2] The special exercise of imagination in which it acts as a servitor of thought we have ventured to call the deliberative imagination (§ 201).

§ **215.** The concept itself cannot be imaged, for it is general, and an image is always individual.[3] How then does imagination enable thought to realize its products, how does it serve to this end? It operates in two ways; either by the intuition of a case, or of a symbol. The exercise of thought under the former mode is called intuitive thinking; under the latter, symbolical thinking.[1]

---

[1] Mansel, *Metaphysics*, p. 166.

[2] So Aristotle: "Common notions, *νοήματα*, are not without images, *οὐκ ἄνευ φαντασμάτων*." — Περὶ ψυχῆς, iii, 7. Cf. *id.* iii, 30. So also Milton: —

> "In the soul
> Are many lesser faculties that serve
> Reason as chief; among these Fancy next
> Her office holds; of all external things,
> Which the five watchful senses represent,
> She forms imaginations, airy shapes,
> Which Reason, joining or disjoining, frames
> All what we affirm, or what deny, and call
> Our knowledge or opinion." — *Paradise Lost*, v, 100 sq.

[3] Psychologists now agree that the general notion cannot be imaged, though Locke maintained the contrary, *Essay*, bk. iv, ch. 7, § 9. Indeed, the supposition involves a contradiction. *E.g.* I have the notion triangle, a figure of three sides. It is applicable to several species, among others to the equilateral and to the scalene. Now should I propose to image triangle in its generality, it must be at once equilateral and scalene. Here emerges the

In intuitive thinking a concrete case or example of some individual member of a class is imaged by the mind. This individual, by embodying all the marks that constitute the concept, is made to stand for or represent all members of the class. Thus when thinking of triangle, I may image a particular triangle, and thereby hold in mind and together all the marks that make up my general notion of triangle. In doing this I disregard the non-essential marks of the triangle imaged here and now, so that they may at any instant be rejected in favor of those of any other. Or instead of that, I may draw a triangle on paper, and then, by means of this object of sense, without the aid of imagination, entertain and elaborate my notion. So any object of sense may be contemplated with reference to its generic marks, and as representative of its class.[2]

---

contradiction that its sides must be all equal and all unequal. Hence such an image is impossible.

The mind can image only those things which, in their elements at least, have been actually experienced in presentative intuition. But the universe of things consists of individuals. There is no general thing existing in the external world. Generality is a fiction of thought (§ 207), and has no existence except as thought. Hence it cannot possibly be presented as an object of adventitious experience, and so cannot be imaged. Our experience is exclusively of individuals, and therefore we can image only individuals.

An individual is "*ens indivisum in se, et divisum ab omni alio; . . . id cujus proprietates alteri simul convenire non possunt.*" — PORPHYRY. "Whatever occupies a distinct portion of space is an individual object of external intuition; and whatever occupies a distinct moment of time, without extension in space, is an individual object of internal intuition. . . . The general notion as such is emancipated from all special relation to space or time. The definition of triangle must not imply where it exists; nor the definition of anger when it takes place." — MANSEL, *Meta.*, pp. 37, 39.

[1] See §§ 152, 153, and 156.

[2] When I am looking at a rose, and say that it is a flower, I view it as

Intuitive thinking or conception, then, is that in which an individual case or example, present to sense or imagination, and embodying the attributes of a general notion, is regarded as representing all members of its class.

§ **216**. In symbolical thinking, an arbitrary sign or symbol, either perceived or imaged, is used as expressive of the concept. Instead of representative examples, we may have representative signs, either presented to sense or imaged by the mind. Language furnishes a system of such signs. All words and combinations of words that we read or hear are sensible signs representative of thought. *Nomina sunt notionum notæ.* When thinking of triangle, instead of an example I may image merely the name of the thing, and thereby entertain the thought.

By means of symbols we are enabled to grasp thoughts beyond the reach of intuition. The notion civilization, for instance, is too complex to be clearly represented by an example, but we hold it fast by this word which is its sign. Thus verbal signs supersede intuitive examples, and the process of thinking becomes algebraic.[1]

---

representing the class. If I smell its perfume, and attend to that quality in the sensation that marks the rose odors and distinguishes them from the jessamine odors, then this sense-perception is a representative example of rose odors. So, if I am listening to some one singing a ballad, I may think of it as generically different from operatic or sacred song. There is no essential difference in the mode of thought, whether by percept or by image, by object or by subject-object. There is a difference in degree of facility, sometimes in favor of one, sometimes of the other. Geometrical figures drawn on the blackboard help a beginner; so also the famous "object lessons for children." But the very narrow range of thinking by means of objects of sense-perception is obvious.

[1] Investigation by the geometric method is intuitive thinking; that by the algebraic method is symbolic thinking. By the former, Newton expounded the celestial system in the *Principia*: by the latter, Laplace elaborated *La Mécanique céleste.*

Why is it that the first step in school education, *i.e.* learning to read and write, is so great a stride? Why should it divide society by one of its sharpest lines? The illiterate think mostly by example; so far as they think sym-

Symbolical thinking or conception, then, is that in which an arbitrary sign or symbol, present to sense or imaged by the mind, and associated with the attributes of a general notion, is regarded as significant of all members of the class.[1]

§ **217.** Being able to employ signs of thoughts in various and changing relations without calling to mind the meaning originally assigned to each,[2] our thoughts gain in celerity and flexibility, but they lose in distinctness, and are in danger of being false.[3] Consequently, it is needful at the end of a process of thought, and even occasionally at intermediate stages, to submit the result to the test of an example, and thus

bolically, it must be chiefly by imagining the sounds of words, — a rather obscure and difficult means. Perhaps the prime advantage conferred by the humble acquisitions reading and writing is that they furnish a system of visual signs available for symbolic thinking.

[1] The distinction between intuitive and symbolic thinking was taken for the first time in modern philosophy by Leibnitz in his Latin tract on "Knowledge, Truth, and Ideas," 1684, a translation of which is appended to Bayne's English edition of the *Port Royal Logic.* According to Hamilton, this distinction superseded in Germany the whole of the bitter and even bloody controversy between Nominalism and Conceptualism which agitated France and England during several centuries. — *Logic,* § 30, pp. 127, 129. The distinction was elaborated by Wolf, a disciple of Leibnitz, in his *Psychologica Empirica,* §§ 326, 329. I find, however, the same distinction taken sharply and clearly by Aristotle in *De Soph.,* i.

[2] "It is not necessary," says Berkeley, "even in the strictest reasonings, that significant names which stand for ideas [notions] should, every time they are used, excite in the understanding the ideas they are made to stand for. In reading and discoursing, names are for the most part used as letters are in algebra, in which, though a particular quantity be marked by each letter, yet, to proceed rightly, it is not requisite that at every step each letter should suggest to our thoughts that particular quantity it was appointed to stand for." — *Minute Philosopher,* Dialogue vii, § 8. Established and familiar propositions are used, like algebraic formulas, without our looking into their meaning; and words are combined into propositions without our stopping to weigh the significance of each in its new connections.

[3] I may speak of a trilateral figure, and I can easily image one. I may also speak of a bilateral figure, but when I try to image it, I find that it is non-sense. So is it when one says: There is no rule without exceptions; for this is itself a rule, and if it have exceptions, there are rules without excep-

ascertain the possible coëxistence of the attributes in a corresponding object of intuition. The existence of a class is possible only if the existence of the individual members is possible; hence symbolical cognition supposes intuitive cognition, actual or possible, as its condition, and derives validity from it. This testing process is a function of the deliberative imagination.[1]

§ **218**. The special function of thought is search for truth. Truth is the abstract name of a quality, a contingent quality, belonging to judgment. A judgment, or its expression, a proposition, may or may not be true. It is true when the affirmation or denial which it makes is in accord with the fact. The usual definition is: Truth is the agreement of a cognition with its object. That is: Truth is the correspondence between

---

tions. Said Voltaire: "Le superflu, c'est le vrai nécessaire." Pope has a satirical "Song by a Person of Quality," beginning:—

"Gloomy Pluto, king of terrors,
  Armed in adamantine chains,
Lead me to the crystal mirrors,
  Watering soft Elysian plains."

Campbell has a whole chapter on this point, *Phil. of Rhetoric*, bk. ii, ch. 7. See Mill's *Political Economy*, bk. iii, ch. 1, § 4; which work, by the way, he introduces with a chapter of "Preliminary Remarks," in which, we may understand, he takes a prospective review of the subject. See also Stewart's *Elements*, ch. iv, § 4; Hume's *Treatise of Human Nature*, pt. i, § 7; and Locke's *Essay*, bk. ii, ch. 22, § 7 *et al.*

[1] See Mansel, *Meta.*, p. 169 sq.; and *Proleg. Logica*, pp. 36 and 52. He says: "Like a bank-note, a symbol is representative of value without having an intrinsic value of its own; and, like the bank-note, its real worth depends on the possibility of its being at any time exchanged for coin. But as the note is treated in practice as if it were real money, so commonly we treat symbolical knowledge as if it were itself the complete consciousness to which, if valid, it may at any time be reduced." The test of symbolic thought is thus the image or intuition of an example. We must individualize our concepts, look them in the face, envisage them; Ger. *anschauen*. This test is, however, merely negative; it does not determine the truth of the thought, but merely assures us of self-consistency. Still it is evident that intuitive thought is a necessary, though only a negative, test of symbolic thought.

the representation we make of an object, in thought, and the qualities presented by that object in intuition.[1]

The old question: What is truth? seems to call for something more than a definition of the word.[2] It seeks a universal and secure criterion of truth. Since thought is the highest cognitive activity, the others being subservient, there is no superior authority to which it should submit. Therefore it must itself, by aid, if need be, of the subordinate powers, furnish the criterion, the test of the truth of its own products, if any such criterion there be.

It has just been stated that the test of symbolical thinking is the intuition of an example. But this is merely a negative criterion of the possible existence of an object of sense; that is, whatever cannot stand this test cannot be. Quite similarly Logic presents us with negative criteria of truth in the universal and necessary laws of thought. Whatever violates these laws is false, because thereby thought contradicts itself. But a thought may be perfectly accurate as to logical form, and yet not be in agreement with its object. Consequently the merely logical criterion of truth, namely, the accordance of the cognition with the universal laws of thought, is nothing more than a *conditio sine qua non*, or negative criterion of truth. Further than this Logic cannot go, and of the error which depends, not upon the form, but on the matter or content of the cognition, it has no test to offer.

---

[1] Mansel, *Meta.*, p. 145. Plato's definition is: Truth is conformity with the ideas. Aristotle's: Truth is the agreement of knowledge with reality, *τῷ γὰρ εἶναι τὰ πρᾶγμα ἢ μὴ ἀληθὴς ὁ λόγος ἢ ψευδὴς λέγεται.* — *Categ.*, ch. 12. This dictum he particularizes, in *Meta.*, iv, 7, thus: "Affirming non-existence of the existent, or existence of the non-existent, is error; but affirming existence of the existent, or non-existence of the non-existent, is truth." His doctrine, more fully stated by Ueberweg, is: "Truth in a logical judgment is the correspondence of the combination of mental representations with a combination of things, or, in case of the negative judgment, the correspondence of a separation of representations in the mind with a separation of things. Falsity [error] in judgments is the variation of the ideal combination or separation from the real relation of the things to which the judgments relate." — *Hist. Phil.*, § 47. The scholastic definition is tantamount: "Veritas est adequatio intellectus et rei, secundum quod intellectus dicit esse, quod est, vel non esse, quod non est." — AQUINAS, *Con. Gen.*, lib. i, ch. 59. On truth and error, see Hamilton, *Logic*, §§ 90, 91.

[2] The Greeks used the question to push pretenders into a corner, forcing them either to commit stupid sophisms, or to confess ignorance. The Romans, in their profound skepticism, asked it in scorn, as a first yet unanswerable question. See John 18:38.

"Of the truth of our cognitions in respect of their matter, no universal [positive] test can be demanded, because such a demand is self-contradictory. For since truth is the agreement of a cognition with its object, this object must be *ipso facto* distinguished from all others. Now a universal criterion of truth would be that which is valid for all cognitions, without distinction of their objects. But it is evident that since, in case of such criterion, we make abstraction of all content of a cognition, and since truth relates precisely to this content, it is absurd to ask for a universal and positive mark of the truth of the content."[1]

How, then, since we can have no universal and positive criterion of truth, are we to know that we know? For, "to know that we know what we know, and that we do not know what we do not know, that is true knowledge." Giving up the universal criterion, we observe that all knowledge originates in intuition; that pure intuitions or principles are necessary truths, we necessarily know them to be necessarily true; that empirical intuitions are necessary also in the sense that we are constrained to know in them the existence of their objects. So much is certain, out of reach of all question. Now from these data exclusively we make logical inferences. If the logic be good, the conclusion is equally certain; as, for example, in pure mathematics. But if the axioms be not strictly pure, or if the empirical facts be not perfectly ascertained and justly appreciated, or if our inferences be not strictly logical, we should doubt. To know that we know, we must review and perfect these. Then we have truth. If from the nature of the matter, purification be impracticable, we should carefully entertain as to the conclusion the full measure of doubt that belongs to the premises, together with all that may have been gathered in the logical process. Then we have only greater or less probability. This, perhaps, is the meaning of Plato, when he speaks of experience, wisdom, and reason as affording conjointly a *κριτήριον* of truth.[1]

---

[1] Kant, *C. P. R.*, p. 51. In this connection he remarks: "To know what question we may reasonably propose is in itself a strong evidence of sagacity and intelligence. For if the question be in itself absurd and insusceptible of a rational answer, it is attended with the danger — not to mention the shame of him who proposes it — of seducing the unguarded hearer into making absurd answers, and we are then presented with the ridiculous spectacle, described by the ancients, of one milking a he-goat while another holds a sieve."

§ **219**. The opposite of truth is error, a false judgment, the disagreement of a cognition with its object.[2] All primitive or psychological judgments are true; it is impossible to err in a fact of consciousness (§ 69). Our senses never deceive us (§ 160). Pure intuitions are certain and necessary (§§ 118, 119). Error, then, has no place in the presentative faculties.

---

[1] *Politica*, 582 a, Step. Many criteria have been proposed. Descartes affirmed: "All that is very clearly known and perceived is true." — *Med.*, iii. But he admits elsewhere the vagueness of this criterion. Wolf gives: "Determinabilitas prædicati per notionum subjecti." But this applies only to explicative propositions. Hamilton says: "The criterion of truth is the necessity determined by the laws which govern our faculties of knowledge; and the consciousness of this necessity is certainty." — *Logic*, § 90. But this, being a reference to the laws of pure logic, is merely negative, and so too narrow. Thompson says: "Evidence is the sole means of establishing, and therefore the sole standard for testing, the truth of any proposition." This also is too narrow, since it relates only, on the other hand, to empirical truth. Besides, it involves, as he says, "the whole science and rules of evidence." — *Outline of the Laws of Thought*, § 114.

[2] To escape confusion, let us distinguish veracity and falsehood from truth and error. Veracity or truthfulness is characterized by a belief in the agreement of the judgment with the proposition or expression. Falsehood or a lie is a conscious disagreement between the judgment and its expression. Both are subjective; whereas truth and error, as above described, are objective.

Imagination, taken strictly, affirms only the congruity or incongruity of images, and this, being a primitive judgment, does not err. The primary judgment of memory is a fact of consciousness, a primitive judgment, and therefore cannot err; its secondary judgment is an inference of thought from given impressions, and so is liable to err (§§ 182, 183). Only logical judgment may be false, may involve error; it is thought alone that errs.

Why should thought err? In symbolic thinking we have a test to discover incongruity (§ 217). The principles of Logic furnish a criterion that saves us from self-contradiction (§ 218). By these negative tests we may escape absurdity, if not error; we may at least be consistent, which is a great gain. But, moreover, by a thorough investigation of the principles on which a judgment rests, by pursuing them to their original intuitive sources, we may determine positively its truth or falsity, and in such case need not err. If this thorough investigation of principles and process be beyond our powers, still, in many cases, we may be able to go far enough to estimate fairly the degree of probability belonging to the matter. If not, then we should suspend judgment, and rest in contented ignorance, which is wiser than presumptuous knowledge.

But to be content not to know is commonly too hard for us. Impelled by instinct towards knowledge, we form, often very hasty and crude, but almost always very decided opinions about all sorts of matters. And so we blunder, and stumble, and fall. Carelessness, lack of love for truth, indifference, lack of interest, and consequent thoughtlessness, leave open the by-paths, and we wander. But none of these, nor a neglect of the means in our power, can be called a cause of error, for they are all negative, and there is no such thing as a negative cause. The absence of a thing cannot properly be accounted a cause. All causes are present and positive.

No doubt our opinions are largely determined by our feelings and desires. Things appear to be true or false according as they please or displease, according to desire or aversion; for the will arrests attention upon the agreeable, and refuses to consider the disagreeable.[1] But these several activities are all conditioned on and subsequent to cognitive exercise, and so, however influential, are not the primary causes of error.

§ 220. The question then recurs: Why should we err, and that so frequently, so fatally? We now bring the charge against imagination, that it is the chiefest, perhaps the sole direct source and cause of error.[2] In the right adjustment and exercise of our faculties imagination is the servant, the handmaid of thought. But too often, proud in her queenly beauty, and haughty in her fascinating power, she becomes, by unnatural inversion, the mistress of thought, a mistress lawless and tyrannical. All the illusions of sense are vain images, and its delusions are false inferences induced by imagination (§ 160). Again, we often believe that we remember circumstances which never in fact coexisted, and have mistaken an act of imagination for an act of memory (§ 183). In disguise it has deceived and misled us, and caused us to judge falsely. Again, when testing symbolic thought, the deliberative imagination often presents an image so clear and distinct, so congruous and consistent, as to impose upon us, and in our unguarded weakness we accept this impression as an evidence of truth. How often, too, does a brilliant illustration carry captive our convictions in spite of sound argument. A frequent, perhaps the most frequent, form of error is an over-hasty generalization, a precipitate induction.[1] No induction is strictly certain, for its basis is empirical. The numerous modifications which each of the physical sciences has undergone furnish historic evidence of the fact. But we often overlook this, and accept a mere induction, perhaps a very weak and even a groundless induction, with the confidence of intuitive truth. This can occur only under the influence of imagination whose vivid representation disperses the shadow of doubt.[2]

---

[1] "Ansi l'esprit marchant d'une pièce avec la volunté, s'arrête à regarder la face qu'elle aime, et en jugeant par ce qu'il y voit, il règle insensiblement sa croyance suivant l'inclination de la volunté." — PASCAL, *Pensées*, pt. i, art. 6, § 13.

[2] The indictment is not new. Says Pascal: "Cette superbe puissance, ennemie de la raison, qui se plâit à la contrôler et à la dominer pour montrer combien elle peut en toutes choses, a établi dans l'homme une seconde nature. . . . Elle ne peut rendre sages les fous, mais elle les rend contents, à l'envi de la raison. . . . Qui dispense la reputation, qui donne le respect et la vénération aux personnes, aux ouvrages, aux grades, sinon l'imagination? Combien toutes les richesses de la nature sont elles insuffisantes sans son consentement? L'imagination dispose de tout; elle fait la beauté, la justice, et le bonheur, qui est le tout du monde. . . . Cette maîtresse d'erreur est d'autant plus fourbe qu'elle ne l'est pas toujours; car elle serait règle infaillible de la vérité, si elle l'était infaillible du mensonge. Mais, étant le plus fausse, elle ne donne acunne marque de sa qualité, marquant de même caractère le vrai et le faux." — *Ibid.*, § 3.

In all men there is a natural, a necessary, a devotional love of truth. They fail often to attain it because "it hideth, and the labor of discovery is great, and the recompense scanty; while, at the same time, we are unceasingly solicited, pressed, agitated by the imagination and the passions, whose inspiration and impulse it is always agreeable to obey. Truth is a pure grace, but the understanding of truth is a grace of such character that it must be merited by

[1] The Psalmist corrects himself: "I said in my haste, all men are liars." —Ps. 116:11. He does well; for the saying included himself, and therefore should not be credited.

[2] Bacon was the first philosopher who attempted a systematic and exhaustive enumeration of the kinds of human error, and he ascribes them all to imagination. He made a quaint classification in four genera, under the significant name of Idols (*idola*, εἶδος, an image), in the sense of illusions, described as if presented in a magic mirror. He says: "I do find, therefore, in this enchanted glass four idols, or false appearances, of several distinct sorts." The four are, Idola tribus, Idola specus, Idola fori, and Idola theatri. —*Nov. Organ.*, lib. i, sum. of pt. ii, aph. 38 sq. See also Hamilton, *Logic*, Lec. 28; and Hallam, *Lit. of Mod. Europe*, pt. iii, ch. 3, §§ 58, 59.

labor.[1] But men love not labor, and so imagination usurps the throne of thought. Dazzling and complaisant in her ready power, she wins the homage due to the truth she feigns; while truth, far removed in her severe simplicity, is prized chiefly through her brilliant substitute. "Truth may perhaps come to the price of a pearl, that sheweth best by day, but it will not rise to the price of a diamond that sheweth best by varied lights. But howsoever these things are thus in men's depraved judgments and affections, yet truth, which only doth judge itself, teacheth that the inquiry of truth, which is the lóve-making or wooing of it, the knowledge of truth, which is the presence of it, and the belief of truth, which is the enjoying of it, is the sovereign good of human nature."

---

[1] Malebranche, *Traite de Morale*, pt. i, ch. 5, § 5. "It is a mere *sophisma pigrum*, and (as Bacon hath said) the arrogance of pusillanimity, which lifts up the idol of a mortal's fancy, and commands us to fall down and worship it as a work of divine wisdom, an *ancile* or *palladium* fallen from heaven." — COLERIDGE, *Biog. Lit.*, ch. 8. For the final quotation see Bacon, *Essay*, i, On Truth.

PART FOURTH.

FEELING.

CHAPTER I.

CHARACTERISTICS.

§ 221. We are now to consider the second class of the generic powers, the feelings.[1] These are modes of self-consciousness, or subjective consciousness, in logical opposition to cognitions, which are modes of objective consciousness (§§ 71, 73). Feeling and cognition are psychological correlatives, existing only in coexistence. The state of consciousness that is objectively a cognition is subjectively a feeling. Every cognition implies a feeling, and every feeling implies a cognition. They are logically distinguished as merely different aspects of the same actually indissoluble mental mode, as really inseparable as the convex and concave sides of a circular arc. Looked at on the subjective side, that is, relatively to the subject, the mode is a feeling; looked at on the objective side, that is, relatively to the object, it is a cognition, the obverse and reverse of the same state. As experienced they are the combined, simultaneous, or rather the single consciousness of the ego and non-ego in their essential antithesis.

---

[1] The word *feeling* was originally the name of the tactile sensation only, but has been extended in common usage to all states of consciousness marked by pleasure or pain. The cognate term *Gefühl* in German has had a like expansion of meaning. The same may be said of the Greek *αἴσθησις*; and also of the Latin *sensus*, *sensatio*, with their derivatives in the modern Romanic languages.

Brown extended the meaning to an identity with consciousness. — *Phil. of Hum. Mind*, Lec. 11. Also J. S. Mill. See him quoted in § 55, note. So also Bain and Spencer, and associationists generally. Says Clifford: "It means thought or emotion or volition or sensation of any kind; anything that goes on in the mind may be called a feeling." — *Seeing and Thinking*, p. 88. This violates usage, and confuses modes that are clearly distinguishable. See § 97 and its note.

That a cognition is objective means that consciousness is therein relative to something distinct from the conscious subject. A feeling is subjective in that consciousness is therein limited to the pleasure or pain experienced by the conscious subject. Specifically, perception is a kind of cognition, and sensation a kind of feeling. Perception is the consciousness by sense of the qualities of an object known as distinct from self. Sensation is the consciousness of the subjective feeling, pleasant or unpleasant, which accompanies that act of knowledge. In the complete state, which we call a sense-perception, perception is the objective element, sensation the subjective element (§ 97). This contrast or opposition of perception and sensation is an obtrusive, but still only a special example of the law that universally divides the generic phenomena of knowledge and feeling. They always correlatively coexist.[1]

It is sometimes said that the external object causes the sensation alone, which then causes or occasions the perception, thus making sensation antecedent to perception. On the other hand, in case of intellectual states, it is said that the cognition is the cause or occasion of the concomitant feeling. But in fact neither is the chronological, or the psychological antecedent of the other. There is, for example, no more ground for holding that sensation precedes perception, than the reverse. Indeed, feeling and cognition in general are equally original and complementary, and can be distinguished only logically.

---

[1] See Hamilton, *Meta.*, p. 335. Matthew Arnold revived a phrase originally used by Swift in his "Battle of the Books," and made it stand as a mark of culture — "sweetness and light," a union of kindly feeling and bright intellect.

§ **222.** But though always correlatively coexistent, cognition and feeling are not directly proportional. On the contrary, feeling, when it rises above a certain degree of intensity, obscures cognition, because of the concentration of consciousness in the subjective affection; and, on the other hand, an acute, intense cognition draws consciousness away from the feeling, which thereby sinks to a lower intensity and becomes faint. The rise of one is at the expense of the other.

Moreover, in some special sense-perceptions, as in sight, the perceptive power is normally very acute, while the sensation is so faint as to be hardly discernible; in others, as in smell, the perception is quite obscure, while the sensation is very decided. Hence, the stronger the sensation, the weaker the perception, and *vice versa*. But the law is general, thus: Cognition and feeling exist only as they coexist, and are in inverse ratio.[1]

§ **223.** While thus observing the relation of cognition and feeling, it will be well to recall that change has already been noted as a condition of consciousness in general (§ 57). More specifically we now remark that change is necessary to continuity of feeling. We soon become unconscious of unremitted impressions. The degree of feeling is proportional to the change, and abruptness of transition enhances the effect.[2] For example: When the temperature of the body is uniform at about 98° F., we feel neither warm nor cold; a variation above or below this grade excites the sense of temperature. It is only after want that we feel the blessing of plenty; only after sickness do we enjoy health; only after war do we really feel the bliss of peace. The feelings that attend freedom and restraint, power and impotence depend largely on the transition from one to the other. The effect of novelty, of news of all sorts, is stimulating; that bad, or even good news, should be broken gradually is well known.[1]

---

[1] Says Kant: "Je starker die Sinne, bei eben demselben Grade des auf sie geschehenen Einflusses, sich afficirt fühlen, desto weniger lehren sie. Umgekehrt, wenn sie viel lehren sollen, müssen sie mässig afficiren." —*Anthropologie*, § 20.

[2] See Bain, *Emotions and Will*, p. 78.

There is naturally a tendency to accommodate one's self to any continuous condition, which is called the subordinate law of accommodation. No feeling can long persist in its original intensity. The second day of a holiday is attended with less flush than the first. The millionnaire's accumulations strike him with feebler and feebler impulses. The delights of knowledge, and even of virtue, are subject to decline. When the lower level of either pleasure or pain has been reached, we become, as it were, accommodated to the situation, and the feeling thenceforth maintains an even tenor.[1]

---

[1] "Sense, properly so called," says Hobbes, "must necessarily have in it a perpetual variety of phantasms, that they may be discerned from one another; it being almost all one for a man to be always sensible of one and the same thing, and not to be sensible at all of anything." So a variety of viands at table is requisite to the enjoyment of taste; uniformity disgusts. A person having fetid breath has no sense of it, and yet is sensitive to fugitive and delicate odors. In a smooth sailing ship we lose the sense of motion, but not in a stage-coach. The contact of the still air with the skin excites no tactile sensation, but a fitful breeze fanning the cheek keeps tactile consciousness awake. The enormous pressure of the atmosphere on our bodies is unfelt, unless a marked variation is caused, as by descending in a diving-bell, or ascending in a balloon. We suffer much from our sudden and extreme changes of weather; whereas neither the Laps suffer from cold, nor the Boërs from heat. The effect of unvarying fortune is exemplified in the insensibility of the rich, and the stolidity of the poor. Those who have experienced opposite circumstances are they who feel.

Monotony produces tedium, *ennui*, and some variety is needful for a healthy play of our energies. He who muses much, needs to be amused. But, as Prince Hal says: —

> "If all the year were playing holidays,
> To sport would be as tedious as to work;
> But when they seldom come, they wished for come,
> And nothing pleaseth but rare accidents."
> — KING HENRY IV, pt. i, A. 1, sc. 2.

"The feeling of tedium or *ennui*," says Hamilton, "is like that of being unable to die, and not being allowed to live; and sometimes becomes so oppressive that it leads to madness and suicide. It is less felt by the uncultivated than by the educated. Our easy occupations we call pastimes. All occupation is either labor or play. In both there must be ever a change of object, or both will soon grow tiresome. They must alternate, or we shall never know true enjoyment in life." — *Meta.*, p. 617. A due proportion between uniformity and variety is sometimes given as a definition of objective beauty. More generally, a mean seems to be most pleasing.

The principle of relativity has already been resolved into the shock of difference, with its correlative shock of similarity (§ 59). Now be it observed that a shock is not at all a cognition, but strictly a feeling. Hence it appears that the primary movement of consciousness lies rather in feeling than in cognition, the shock being the logical antecedent or condition of the intellectual discrimination. Unless we feel, we cannot know. In the shock determined by the difference between two objects or ideas, we feel; in the discrimination we make between them, we know. The consciousness of the shock is feeling; the consciousness of the difference is cognition.[2]

§ **224**. Novelty has already been mentioned. It is not itself a feeling, but merely expresses the superior force of all stimulants of feeling on being first applied. It is a fact which contributes to raise the intensity of our energies, and consequently to determine a corresponding degree of pleasure or pain. It is realized chiefly in youth when all feelings are fresh. New scenes, new modes of life, constitute the attractions of travel. Inventions, discoveries, artistic effects, especially in the pages of story, have the charm of novelty, and in fashion it is supreme. Novelty in pain has the same enhancing effect. The first encounter with a cause of pain involves the worst experience.

---

[1] It is said that at the overthrow of the Bastile the prisoners manifested no joy at their release. Long and unintermitted confinement had accomplished its perfect work of accommodation to bondage.

[2] We note the common phrases: a shocking impropriety, a startling event, a striking remark, a surprising likeness.

As variety or change is opposed to monotony inducing tedium, so novelty is opposed to familiarity. Novelty is the absence of familiarity, and so is merely negative and not itself a feeling. But familiarity is positive, a feeling quite general and of great moment. It is the feeling correlative to memory, and so to all powers conditioned on memory. In a very important sense it seems to be the basis of all the convictions of memory. It attends repetition, and so is distinguishable from the shock of similarity that attends simultaneous impressions, but must be considered as merely another form of this ultimate experience (§§ 182–3).

The strength of the feeling of familiarity is proportioned either to the vivacity of a single impression, or to the frequency of the subsequent repetitions, the word being more commonly applied to the latter case. It will also be largely determined by the degree of attention given to the antecedent impression. All memory, but especially its primary judgment, seems to be based upon and guaranteed by this peculiar and unmistakable feeling of familiarity. When I meet a stranger a second time, when I write my name for the thousandth time, because of the familiarity, I feel sure that these have been known before. Mediate perceptions are not usually thought of as involving memory. When, for example, I judge that two sounds come from different directions (§ 166), is there any appreciable reference to past experience? Only perhaps in the unmistakable feeling of familiarity with the direction of sounds, which implies previous experience. In all cases this feeling is the ground of our confidence in the judgment.

§ **225.** The distinction between feeling and desire is to be more fully stated hereafter. It is admissible here to refer to § 74, with the remark that the distinction is usually neglected. It seems, however, of great importance, and quite clear. In desire there is essentially a want, a longing, an impulse towards some object of cognition. In feeling there is no want, no longing, no impulse whatever. "It is altogether different to feel hunger or thirst and to desire its appeasement; and again different is it to desire its appeasement, and to enjoy the feeling afforded in the act. Feeling belongs exclusively to the present, desire only to the future; for it is a longing either to maintain the present state, or to exchange it for another."[1] Thus desire is not feeling, but an activity which feeling sets in motion. We are now undertaking a consideration of the feelings only, excluding the desires.

§ **226**. There are several marks or qualities which are characteristic of feeling in general, that is, found in feelings of all classes and in feelings only, and so distinguish them from all other mental activities. One primary and most important is consciousness of self.

That the consciousness of self, of my own existence, originates and is constant in feeling is an easy deduction. In every cognition there is essentially an opposition between a subject knowing and an object known. The subject, then, is not cognized, else it would be both subject and object at once, and these being contraries cannot coexist. Hence the consciousness of the subject, its self-consciousness, not being found on the cognitive side of the mental state, must be grounded in the correlative feeling. Given a cognition of an object, then in the correlative feeling is given self. Thus the consciousness that I am is essential in the original fact that I feel.[2]

Hence it is that I distinguish myself from the rest of the world so absolutely that this distinction has an entirely different value from the distinction of another thing from a third. Each of my states, all that I suffer or do, is marked off immediately by a feeling, which is lacking when I consider the doing or suffering of another. In feeling, then, is to be found the motive of the peculiar distinction by which each person sets himself over against the universe, and the consciousness of his own existence as contradistinguished from every other existence.[1]

---

[1] Hamilton, *Meta.*, p. 572.

[2] For the distinction between self-perception and self-consciousness, see § 109.

That the consciousness of the ego or I myself, of my own being, lies primarily and indeed exclusively in feeling, and moreover is an essential element in each and every feeling, is confirmed by the fact that the intensity of the consciousness of self varies with the intensity of feeling. When cognitive exercise is intensified, the correlative feeling is, according to the law of inverse ratio, enfeebled, and such states are attended by a comparative forgetfulness of self; but where there is great pain or passion, cognition is enfeebled, and the consciousness of self predominates. Hence, not in cognition, but in feeling is self given.[2]

The primary consciousness of a feeling and an after cognition of it should be discriminated. The former is experienced, and involves the consciousness that I am, when indeed I do not at all think about it. The most ignorant person, the new-born babe, must be fully conscious of self-existence in every sensation.[1] The feeling may be eventually objectified even while it still exists, and analyzed by thought, and thus I come to a knowledge that I am, which is quite different from the simple and original consciousness of it, the mere feeling it. All feel it constantly; some, perhaps many, never think it.

---

[1] Lotze emphasizes this, and adds: "Diese beiden Leistungen also, sein eigenes Wesen zu kennen, und sich als ein Selbst zu fühlen, sind mit einander nicht nothwendig verknüpft. Als das erste haben wir eben dieses unmittelbare Selbstgefühl to betrachten, dessen Vorhandensein ebensowohl wie seine Lebhaftigkeit ganz unabhängig sind von dem Grade der Selbsterkenntniss, die wir gewöhnlich unter dem Namen des Selbstbewusstseins denken. Vielmehr ist diese letstere nur die im weiteren Verlauf unserer geistigen Entwicklung zu Wege kommende denkende Interpretation jener ursprünglichen nur in der Form des Gefühls möglichen innereu Erfahrung." — *Grundzüge der Psychologie*, Dictate, § 52.

[2] This discovery of the consciousness of self in feeling rather than in cognition would justify a correction of the famous "*Cogito, ergo sum*" of Descartes. It would read more accurately: I feel, therefore I am. But the illation cannot be allowed; as an enthymeme it is false to the fact, which fact is more truly expressed in the form: I am, in that I feel.

§ **227**. Strict certainty, the correlative of immediate cognition, is the feeling attending a consciousness of necessity; that is, in so far as there is necessity on the objective or cognitive side, its psychological correlative, a feeling of certainty, exists on the subjective side. Since all intuitions are attended by this feeling, and since they are component elements in every cognition, it follows that the feeling of certainty relative to them intermingles with every state of consciousness. It also attends the results of rigid demonstration. In character it is strict, absolute, admitting of no degrees and incompatible with any measure of doubt (§ 69).[2]

Belief, the subjective correlative of mediate cognition, is the feeling attending all forms of representative knowledge. Since in every cognitive activity there is always an exercise of the representative faculties, it follows that the feeling of belief relative thereto is also intermingled with every state of consciousness. It has many degrees of intensity, and is compatible with doubt. In its highest form it approximates certainty, but never attains it; like a conic curve constantly approaching yet never reaching its straight asymptote. As inference never becomes intuition, so belief never becomes strict certainty. As there is good reason for distinguishing mediate from immediate knowledge, so it is proper to distinguish belief from certainty; though indeed the latter word is often inaccurately used for a high degree of belief.

---

[1] Even the brute must be conscious of self-existence, but surely cannot have a notion of it.

[2] It is this feeling which is referred to by Aristotle when he says that knowledge, in the last analysis, reposes on a blind and necessary belief. So also Hamilton: "A fact of consciousness is one whose existence is given and guaranteed by an original and necessary belief." — *Meta.*, p. 188.

The logical or formal opposite of belief is disbelief, but as a mental fact they are one, disbelief being belief of the contrary. The psychological and real opposite of belief is the feeling of doubt. These two always coexist, but in inverse ratio. With the highest belief, falling just short of certainty, there is some remainder of doubt, of uncertainty. Descending the scale, while belief diminishes, doubt increases, but does not reach its maximum in ignorance, but along with a minimum of belief. Doubt cannot exist where there is no trace of belief. Ignorance, a pure negation of both knowledge and feeling in respect of any matter, lies beyond. Certainty and ignorance, then, are not the termini of this psychological scale, but are just beyond its opposite ends. As ignorance, a negation of belief, is never accounted a degree of doubt, so certainty, the negation of doubt, should never be reckoned a degree of belief. As doubt never becomes blank ignorance, so belief never becomes strict certainty.[1]

---

[1] In psychological treatises generally the doctrine of certainty, belief, and doubt is either neglected entirely or slighted, or else confused with that of knowledge. The confusion arises from the intimate relation of belief and knowledge. Truly they are inseparable, yet cannot be identified. The words to know and to believe are often used interchangeably, either as implying the other, to know being the stronger expression; but accurate use distinguishes them, *e.g.* Isa. 43 : 10; 1 Tim. 4 : 3. One is thought of as conditioning the other. The famous dictum of Aristotle, *δεῖ γὰρ πιστεύειν τὸν μανθάνοντα* (Σοφιστ., 2), accords with the humble *Crede ut intelligas* of Anselm, but contrasts with the haughty *Intellige ut credas* of Abelard. This last seems to be the true logical relation, as already indicated in § 81.

The doctrine that certainty, belief, and doubt are merely simple feelings does not derogate from their importance, but rather serves to bring feeling forward to its true position, and show its weighty importance in human nature. The common speech of men supports our view, since it always recognizes these mental states to be feelings, as seen in the familiar phrases, I feel quite certain, I feel sure, or assured, I feel a strong conviction, I feel very doubtful, etc. The complex state, reliance, trust, faith, in which belief is a predominant element, is likewise recognized to be feeling in the phrase, Mediate judgment and belief are the obverse and reverse of the same mental state, but the strength of the belief does not depend on the soundness or accuracy of the judgment, but upon its clearness and distinctness, or its singleness, all alternatives being obscured or eliminated. What is really false may thus be heartily believed. An error is an error only when taken for truth, and the correlative feeling may mount to the highest conviction. So it is that belief attends the false when thought of as true, just as the feeling of moral approbation attends wrong conduct when judged to be right.[1]

§ **228**. Every feeling is marked by pleasure or pain. It has, therefore, been proposed to make a primary division of feelings into pleasant and painful. But this gives insufficient ground for subdivisions. Indeed, the distinction is not always sharply marked, being of degree rather than of kind. Pleasant feelings often graduate into painful feelings, and *vice versa*, without change of any other quality, or even of name, by a change of intensity only. A pleasing musical tone may gradually become so loud as to be displeasing. Pleasant expectation may pass into painful anxiety. It is better, therefore, to take them together, though opposites, as a characteristic of feeling in general.[2]

I feel confident. The whole matter deserves an expanded treatment beyond what our present limits will permit; but if we have truly and clearly indicated the right place for these modes of consciousness in the psychological system, and their relations to other modes, this alone is a great gain. For the sentiment of truth, see § 251.

[1] Opinion primarily means a feeling of conviction of a truth on merely probable evidence. "Every opinion," says Montaigne, "is strong enough to have had its martyrs"; and Luther cries: "O doxa! doxa! quam es communis noxa!" Emotion by heightening the intensity of its corresponding idea, greatly influences belief, and our desires react in like manner to determine opinion. "Quæ volunt sapiunt, et nolunt sapere quæ vera sunt," said St. Hilary; and so Demosthenes: Βούλεται τοῦθ' ἕκαστος καὶ οἴεται. — *Olynth.*, iii.

[2] "Pleasure and pain," says Hamilton, "are the phenomena which constitute the essential attribute of feeling under all its modifications." — *Meta.*,

Both pleasure and pain are positive, but either may, with reference to the other, be viewed as negative. Absolute pleasure or absolute pain never exists. Actually they always coexist in the coexistence of various feelings, and tend to neutralize each other, so that the total state is only relatively pleasant or painful, or perhaps neutral. One form of relative pleasure arises from contrast, in the mere diminution or cessation of pain.[1]

Aristotle's explanation of these phenomena, referring them to their causes, has been very generally accepted. Pleasure is the effect of certain harmonious relations, of certain agreements; pain is the effect of certain unharmonious relations, of certain disagreements. The pleasurable is therefore properly called the agreeable, the painful, the disagreeable. Pleasure is the reflex of spontaneous and unimpeded energy. Pain is the reflex of over-strained or repressed energy. Here the term spontaneous refers to subjective, the term unimpeded to objective perfection. Each power tends spontaneously, that is, of its proper nature and without effort, to put forth a certain maximum of free energy. If this maximum be reached there is pleasure. If less, the energy is repressed, if more, it is over-strained, and there is pain. The term unimpeded stipulates that, in order to pleasure, the object should not check the spontaneous spring of the

---

p. 573. See his distribution. — *Id.*, p. 602. "Inasmuch as suffering treads always on the heels of delight, and each kind of sweet has its cognate bitter, it would be divorcing the closest relationship to partition the human feelings into pleasures and pains as the primary division of the whole." — BAIN, *Emotions and Will*, p. 77.

[1] Plato, in the *Philebus*, taught that pleasure is merely relative, the absence of or passing from pain, *ἀεὶ γιγνόμενον, οὐδέποτε ὄν*. Kant adopted this view, according to the quotation in Hamilton's *Meta.*, p. 599 sq. But in another place Kant says: "Sie sind einander nicht wie Erwerb und Mangel (+ und 0), sondern wie Erwerb und Verlust (+ und –), d. i. eines dem andern nicht blos als Gegentheil (*contradictorie, sc. logice oppositum*), sondern auch als Widerspiel (*contrarie, sc. realitier oppositum*) entgegengesetzt." — *Anthropologie*, § 59. Aristotle held that both are positive, and his views now generally prevail. — *Nicom. Ethics*, bk. x.

energy towards, nor stimulate it beyond, its natural maximum. Thus all pleasure arises from the free natural play of our faculties; all pain, from their repression or their over-strain. More tersely and more widely: The normal gives pleasure; the abnormal, pain.[1]

Pleasure and pain taken together have been regarded as the fundamental and sole determinant of character and conduct; but we shall find in the sequel that there are other determinants which often oppose and overcome this one. The application of the principle has been further extended to explain the entire nature, not only of man, but of all sentient beings; for the doctrine of the evolution of the varied forms of animal life from primordial forms by natural selection, is grounded on the natural impulse toward pleasure and shrinking from pain.[2]

---

[1] A famous dictum of Descartes is: "Tota nostra voluptas posita est tantum in perfectionis alicujus nostræ conscientia." — *Epist.*, pt. i, No. 6. Says Kant: "Pleasure is the feeling of the furtherance (Beförderung), pain of the hindrance of life." So Herbart: "Feeling is the immediate perception [?] of hindrance or furtherance among the presentations extant at any moment in consciousness, *i.e.* the immediate consciousness of the momentary rising or sinking of the mental vital activity." — Cf. LOTZE, *Psychologie*, Dictate, § 47. Says Bain: "States of pleasure are connected with an increase, states of pain with an abatement, of some or all of the vital functions." — *Mind and Body*, p. 59. Spencer says: "Pains are the correlatives of actions injurious to the organism, while pleasures are the correlatives of actions conducive to its welfare." — *Data of Ethics*, § 33.

For illustration: Extremes of heat and cold, the one stimulating the vital functions to excessive action, the other depressing them, are painful; whereas a medium temperature is pleasant. Darkness and also silence long continued are depressing and painful; intense light and sound are exciting and painful; but the medium exercise of the eye and ear is pleasant. Harmony is especially pleasing; but discordant colors or sounds, harsh lights or grating noises irritating the nerve conduits, are painful. In hope there is a healthful stimulus; depression in despair. The pain of tedium, *ennui*, arises from a repressed natural tendency to action. The more varied the objects presented to thought, the more varied and vivacious our activity, the intenser will be the enjoyment of life. See § 223, note.

[2] See Darwin, *Origin of Species*, ch. 4; but Spencer, *passim*.

§ **229.** A negative characteristic of feelings in general is that they are spontaneous, or at least involuntary; that is to say, we cannot at will directly originate, or control, or suppress any feeling. The sole function of will is to concentrate the cognitive consciousness on an object, which is voluntary attention (§ 89). Any influence, therefore, volition may have over other activities is only indirect, only through attention. It can excite or repress feeling only by a command of its causes and conditions, which, however effectual, is mediate control. Therefore the feelings, in themselves considered, are wholly involuntary. When their causes are unknown or obscure, we call them spontaneous.

The rare and difficult art of self-mastery implies control of feeling. The opposite is passion. This is a subjective state, either of feeling or desire, or of both, so intense that will is overpowered by blind instincts, the intellect being darkened according to the law of inverse ratio, and the sufferer from self becomes passively enslaved. If will successfully resists this subjection, it is done by withdrawing from the exciting object, that is, by attending to some other. This persisted in, the passion subsides; but it appears to be flight rather than victory. It is much the same when the exciting object continues present, and one maintains self-control, restrains action, speaks calmly and holds an impassive countenance, by giving his attention strongly to thoughts of duty, or fit conduct, or consequences of passionate action in the case; then the flight is not so far. But one may conquer self, yet only indirectly. If attention be fixed, if the cognitive consciousness be strongly concentrated on the exciting object itself, then, by the law of inverse ratio, the objective side of the mental state is intensified at the expense of the subjective side. Thus a determined intellectual activity relative to the object restrains and subdues passionate feeling. This is victory. A humane surgeon calmly and steadily does his work, and, though pitiless for the time, is not so before and after. The coolness of a general is perhaps due to intense attention to the plan and progress of the battle.

When attention is firmly fixed on an object, the causes of feelings other than those attending it are inoperative. Hence extreme enthusiasm, or powerful emotion of any kind, may make us insensible to physical pain, and even gentle emotions assuage bodily suffering. On the other hand, the effect of fixing attention on the feeling itself as a subject-object, tends to increase its quantity and intensity. A slight discomfort, if heeded, soon becomes intolerable. Dis-ease becomes disease. A cherished sentiment becomes a passion.

§ **230.** It is a general characteristic of feeling that it tends to produce certain specific physical effects, both in the organs of movement and in the viscera. Smiles and tears are examples. Every pleasure and every pain, every mode of feeling, has a definite wave of effects which speads more or less widely through the nervous system, affecting organic functions, or manifest in expressive movements.

This diffusion of feeling, as it is called, must be distinguished from reflex action. The latter may or may not be attended by consciousness; the former is always attended by consciousness. Reflex actions have a very limited range, each being strictly confined to its single effect; whereas in feeling there is an influence diffused over the members more widely, a general wave of effects. But the chief distinction is that in reflex action mind is not at all concerned, unless it may be as affected; but in diffused feeling mind is primarily the cause of the physical changes.

Reflex action has been designated as purely physical instinct (§ 36). The diffusion of feeling, being partly mental and partly physical, may be termed psycho-physical instinct. Hereafter, under desire, we shall find a third class of instincts, those purely mental, the psychical instincts (§ 258). All instincts are involuntary and spontaneous.

Generally, if the action be anticipated, it may be inhibited; if it have already begun, it may be suppressed by volition. In the psycho-physical instincts, however, this is true only of movements depending on the voluntary muscles. Organic effects, such as blushing, are mostly beyond our power. The suppression of display may become habitual, yet the feelings themselves will still occur, though not unmodified by the refusal to allow them their natural vent.[1]

Feeling being the subjective side of cognition, it follows that when a cognition ceases, the feeling should cease. But in fact feeling often seems to persist, and to subside only gradually, as in joy and sorrow. This seeming persistence is because we commonly confound the feeling itself with its physical effects. The latter may persist, but the former ceases to be when the correlative cognition ceases to be, its physical effects becoming in turn the causes of sensations more or less continuous.

The effects of feeling in physiognomic expression are largely through the facial nerve. Different fibres of its motor branches determine different movements of the face in response to specific feelings. The lifted or frowning brow, as in supercilious pride, or in anger, pain, doubt, or embarrassment, is very expressive, and easily read. The common elevation of the lip and nose gives expression to disdain or disgust. There are nine muscles moving the mouth, making it the most expressive feature, far more so than the eye.

---

[1] "Most of our emotions," says Darwin, "are so closely connected with their expression, that they hardly exist if the body remains passive. Louis XVI, when surrounded by a hostile mob, said: 'Am I afraid? Feel my pulse.' So a man may intensely hate another; but until his bodily frame is affected, he cannot be said to be enraged." — *Expression*, p. 239. This recalls that Aristotle, in *De Anima*, says: "Very often a thing takes place which has to be described by different men in different ways. Supposing a man is angry, he would be so described by the poet or the historian. Thus the poet would say, this man is in a boiling rage, he is exceedingly angry, and is likely to do certain things. But the naturalist would say, there is a boiling up of the blood about his heart."

This power of expression is seen in smiles, pouting, the curled lip of scorn, the depressed corners in sadness, the open mouth of wonder, and many others. The tones of the voice correspond.[1] Next to the facial, the respiratory nerves are most susceptible, as in sighing, breathless surprise, and panting eagerness. The convulsive movements of the diaphragm in laughter and sobbing are noticeable displays, the latter due to partial and transient paralysis. During the sway of certain passions, as anxiety, fear, terror, all the muscles of the body become relaxed, the motor powers of the brain and spinal cord being depressed.[2]

The organic effects of feeling are those produced on the glands, lungs, heart, stomach, kidneys, and viscera generally, and on the skin. Effusion from the lacrymal gland is an accompaniment of grief, but there are also tears of merriment, of joy and of anger. Cheerfulness promotes digestion, while all depressing feelings tend to arrest the healthy action of the stomach, liver, bowels, and kidneys. In fear, the mouth is parched by a suppression of saliva, and a cold sweat breaks out on the skin. The disturbed action of the heart under emotion is a remarkable instance of the influence of feeling on the movements of an organ supplied by nerves of the sympathetic system. This influence is so great that the heart is popularly spoken of as the special seat of feeling, as the brain is of intelligence.[1]

---

[1] The language or articulate expression of feeling consists in the few interjections that belong to speech, as Oh! Ah! Alas! To these add words and phrases used interjectionally, as Bravo! Hurrah! Dear me! Alas for the rarity of human charity! This is a very limited means of expression, far more so than facial change and gesticulation, and it utterly fails unless the tone corresponds. Music, however, song without words, is so exclusively and widely expressive of emotion that it might fairly be named the language of feeling. On "Le Language des Émotions," see *Revue des Deux Mondes* for March 1st, 1887.

[2] Expression is a relief. A groan is a solace. A sigh, a flood of tears, discharges a surplus of nervous excitement, thus preventing the reaction which suppression would ensure, and the consequent exaltation of feeling. A secret is a burden until told. A shout, a burst of applause is followed by renewed calm.

§ **231.** In conclusion we will now state the logical distribution of feelings, determined by specific characteristics.

It will be observed that desires are excluded from this classification, being reserved for subsequent and distinct treatment. Yet some anticipation in the discussion will perhaps be unavoidable, because of the intimate relation of feelings and desires. They commingle and coexist, act and react upon each other, though, in general, feeling excites desire, and hence stands naturally and logically prior. Both are wholly subjective, and in them lie one's character and disposition, just as his talents and abilities lie in the objective powers of cognition and volition. In consequence of this intimacy, feelings and desires have a number of names in common, and a term properly belonging to one is often in usage transferred to the other. Passion, for example, is recognized in either, or in both. Most treatises do not distinguish between them, and hence much confusion and variety of doctrine in the literature of the subject (§ 225).[2]

---

[1] See Müller, *Physiology*, pp. 932–4; and Sir Charles Bell's *Anatomy of Expression* (1844).

[2] Kant divides feelings (Gefühle) into sensual and intellectual. The sensual are those of sense or physical pleasures, and those of imagination or pleasures of taste. The intellectual are those connected with the concepts of the understanding, and those connected with the ideas of pure reason. — *Anthropologie*, bk. 2. He treats of desires (Beghrungsvermögen) apart from feelings in bk. 3. Brown divides feelings into immediate, prospective and retrospective, confusing desires with them. — *Phil. of Hum. Mind*, Lec. 52. Hamilton divides feelings first into pleasures and pains. — Lec. 44 (see § 228). Afterward he divides them into sensations and sentiments, which latter he subdivides into the contemplative and the practical. Under the practical sentiments he introduces desires. — Lec. 45. Bain does not distinguish feeling and desire. — *Emotions and Will*, see p. 71. The two are confused also by McCosh. — *The Feelings.* Waitz, following suggestions of Herbart, divides into feeling proper (1, formal, 2, qualitative) and complex emotional states, which latter are made to include desires.

By keeping clear of the desires many difficulties are avoided, but many remain. A rigid classification is perhaps impossible. It would seem that, if our view of feelings as the subjective side of cognitions be true, the task should be easy, and consist merely in transferring the divisions and subdivisions of cognition to feeling, and marking the correlatives. This is the case so far as perception proper and sensation are concerned. But beyond these we find it impracticable. For illustration, many feelings accounted simple in themselves have very complex correlative cognitions. Shame at wrong conduct, for example, implies introspection, and perhaps memory, with thought, and this under a law of duty discerned by pure reason. It is evident that it cannot be classed as correlative to any one of these exclusively. Hence, after sensation, some other ground of classification must be sought. As sufficient for the purpose of orderly discussion, we have adopted the following: —

SCHEME OF THE FEELINGS.

I. Consciousness.
    1. Objective consciousness, or Cognition.
    2. Subjective consciousness, or Feeling.
        (1) Sensation.
            a. Sensus vagus.
            b. Sensus fixus.
        (2) Emotion.
        (3) Sentiment.
            a. Sensuous.
            b. Pure.
                (*a*) Intellectual.
                (*b*) Ethical.

The ground of the several subdivisions will be given in the progress of the discussion. Cf. § 76.

CHAPTER II.

SENSATION.

§ **232.** Sensations bear a specific relation to the organism. They, together with the attendant perceptions, are the effects of external physical causes. The immediate perception is of the proximate cause as an immediate object; the sensation is the subjective side of the same mental state. Sensations are sometimes described as physical feelings, and sentiments as mental feelings. Sensations have a physical basis, but are none the less strictly mental states, as truly so as sentiments. Perhaps it is sufficient to say simply that sensations are the feelings that attend the exercise of sense, and that sentiments attend the exercise of intellect.

The distinction between sensation and perception was noted in § 97, and their inverse ratio has been repeatedly mentioned. It remains to say that the diffusion of feeling (§ 230) should be distinguished from sensation. In sensation the feeling is an effect, in diffusion it is a cause. True, diffusion causes a *quasi* sensation, as when one painfully shudders at the thought of crime, when horror chills, when a blush burns. But these diffusive effects of feeling in general should be distinguished from the primary sensations attending the senses proper.

§ **233.** The *sensus vagus*, as in pure pain or in the sense of temperature, is highly subjective (§ 29). The fact, however, that we locate many of these sensations is evidence of percipient power. Under this head are included a variety of sensations, ministering for the most part to the organic functions, and to the conservation of the body. Nearly all parts of the frame have their several feelings of comfort and pleasure, of discomfort and pain; but in some of the deeply seated organs no strong sensation occurs, unless in the form of pain indicating a disordered condition. Several distinct groups of these feelings are discernible, of which the following are examples: —

The nerves and nerve centres determine a class of sensations according to the organic condition of their own tissue. Pain arising from wounds, diseases, headache, toothache, and neuralgia, should probably be classed as pure pain. But nervous exhaustion produces a distinct sensibility, while repose, refreshment, and stimulants engender an opposite condition. Under the general term nervousness is included quite a variety of sensations, usually arising from a waste of nervous energy and substance. This pain is not acute but massive, having quantity rather than intensity. It is widespread and oppressive, and is expressed by collapsed features, restlessness, and fretting, and, when extreme, drives to madness and suicide. The feeling arising from a healthy and fresh condition of the nervous tissue is of an opposite character and a pleasurable consciousness. The nervous substance is, of course, necessary to all forms of sensibility, but we are here noting the effect of its own state, and not the effect propagated from some other tissue.

The sensations attending respiration include the enjoyment of pure air, and the various shades of oppression from foul air, lack of breath, and suffocation. The influence of pure air is stimulating and spreads over the system, elevating other functions by improving the quality of the blood. But in the lungs themselves is felt a pleasurable sensibility, not acute, but refreshing. No feeling arises from the lungs in ordinary steady action, but either acceleration or retardation at once gives rise to the characteristic sensations. The feelings of insufficient or impure air are manifested in faintness, weariness, exhaustion, and suffocation. No voluntary effort can long maintain suspended respiration.

Digestion affords all the conditions of a sense, and like the sense of temperature might fairly be assigned to the *sensus fixus*. There is an external object, the food; a distinct organ, the alimentary canal; and a set of sensations, distinct and specific, arising from contact. Excluding taste, the sensation arising from a healthful meal is massive, rich, and luxurious. Its magnitude appears in its ability to submerge many irritations, and for the time to rule consciousness. The feelings attending unsatisfied hunger and thirst become states of prevading, massive, deep, and intolerable wretchedness. They are more intense than nervous depression, and accordingly we take more precautions against them. They incite furious passions which we call wolfish. The feeling of nausea is distinctly stomachic, exciting reflex muscular convulsions that result in vomiting. An experience of sea-sickness enables one to estimate the depth of misery reached by this sensation. Deranged digestion produces a depression of spirits difficult to resist. One possessed by the demon Dyspepsia is not himself, is hardly accountable, and lives in gloom and wretchedness.[1]

§ **234**. The sensations of the *sensus fixus* are now to be examined. Those of the two somatic senses (§ 22 sq.) are similar to those of the *sensus vagus*. The muscular sensation is the massive sense of pressure, which within limits, as in squeezing the hand, or in the hug of affection, is pleasurable; but in higher degrees it becomes oppressive and painful, as in cramp and spasm. According to Brown-Séquard, the pain is in proportion to the resistance offered to the muscular contraction.

Fatigue is a muscular sensation. Over-fatigue is painful, is sometimes used as a punishment, and is a part of the misery attending toil. Many causes of suffering are called burdens. Within limits, fatigue is pleasurable, as from walking, running, dancing, swimming. The lassitude that follows such pleasurable muscular exertion is agreeable. To this must be added the luxury of slumber, for the massive sensation we experience when falling asleep has its seat mostly in the muscular tissue.

---

[1] While the writer is responsible for the general treatment of the feelings, he must acknowledge his great indebtedness to the excellent works of Mr. Bain for very many of the details in this and other chapters. They have been used freely, even as to phraseology, without minute indications, in the hope that this general acknowledgment would be deemed sufficient.

§ 235. The tactile sensation excited by soft clothing, a glove, or a cushion, is agreeable, not acute, but massive, and resembling the sensation of gentle warmth. Pleasurable contact keeps a new-born animal by its mother's side. A gentle slapping or stroking of the hand, as in caress, is agreeable.[1] But when, instead of soft touch extending over considerable area, we have intense action over small area, as by the stroke of a whip, an acute and painful sensation results, so intense as to make the whip the most effective instrument of torture.

Tickling is a peculiar sensation, and may become an intolerable agony, exciting convulsive laughter, sneezing, jerking the limbs, and extraordinary efforts at deliverance. Clamminess, arising from the adhesion of some foreign substance to the skin, is an uneasy, disagreeable feeling. The skin is also liable to feelings not due to contact, and hence called subjective sensations; such as the creeping feeling, as if produced by a crawling insect, and numbness, or the tingling of a limb asleep.

§ 236. Of the cephalic senses the sense of smell is the most subjective (§ 4). The varieties of odor are endless, and their classification difficult. The following will perhaps be sufficient for our present purposes: —

---

[1] "The sensation specially due to contact in a kiss, or other gentle caress, disappears in the greater strength of the accompanying sentiment, and the consequent diffusive thrill." — BAIN.

First, the fragrant odors, or those that appeal to the olfactory sensibilities, and represent the pure and proper sensations of smell. The odors of the violet, rose, jessamine, orange, lemon, lavender, and rosemary are examples. We call them sweet odors.[1] The opposite is stench. It is intense rather than massive, and we are discomposed rather than depressed by it. Asafœtida, sewer smells, and the cadaverous odor are examples.

Secondly, fresh odors are those that owe their character to the sympathy of the lungs. Eau de Cologne, the resinous perfume of the pine forest, the balmy odors of the field and garden, are examples. The opposite is the suffocating odor, as of a red-hot stove, or the effluvia of a crowd.

Thirdly, the appetizing odors, producing a sympathetic effect on the stomach, as the savory smell of roasting meat. The opposite is the nauseous odor, as of rotten eggs.

Fourthly, the pungent odors are such as seem to excite, with the olfactory, the tactile nerves. Ammonia or smelling salts, nicotine or snuff, pepper and mustard are pungent. Snuff-takers who have lost the power of smelling the sweet odors, are still susceptible of the nicotine pungency.

§ **237**. Taste is less subjective and more percipient than smell (§ 7). For this reason perhaps it is that tastes are more distinctly remembered, and hence their repetition more eagerly sought.[2] A viand or a wine tasted to-day may be confidently pronounced the same as one tasted long ago. The sensuous pleasures of taste are great and strongly marked, but they should be distinguished from the sensations of the alimentary canal, relish and nausea. A healthful state of the digestive organs and hunger are the requisite conditions of a strong relish. When hunger is satisfied, there still remains the enjoyment of sweets, as at dessert, due to their independent effect on the gustatory nerves. After sea-sickness, when there is no relish for food, the taste of sweet or bitter is still acute.

---

[1] "Sweetness is a name for a variety of pleasures. Derived originally from taste, it is extended to smells, to sounds and to several of the higher emotions, such as the tender affections and the beautiful in nature and in art. These feelings are so far of a kindred nature, as to suggest and support each other. They all agree in being forms of pure passive pleasure, and in this they resemble repose, warmth and healthy digestion." — BAIN, *Senses and Intellect*, p. 156. For the present classification, see *Id.*, p. 153 sq. It is grounded on the effects produced on our organs. Linnæus made seven classes. See Longet, p. 151.

[2] Yet, as Longet observes, in dreaming of a banquet we see, but neither smell nor taste the viands. For the following classes, see *Senses and Intellect*, p. 144 sq. It is taken in part from Gmelin's *Chemistry*.

Tastes may be more clearly classified than odors. First, the sweet taste, of which sugar furnishes the type, due generally to the actual presence of sugar, the faint sweetness of the alums being an exception. The true opposite is bitter, as in quinine and aloes. As sweetness is the pleasure proper to taste, so bitterness is the pain, and these words are used to describe, metaphorically, many kinds of pleasure and pain.

Secondly, acid taste, which when moderate is an agreeable pungent stimulus, as in vinegar, lemonade, and acid fruits generally. When powerful, the sensation is sharp and penetrating, producing the pain of a burn, rather than of repulsive taste. The opposite is the alkaline taste, as in soda, and is rarely agreeable.

Thirdly, the saline taste, as of common salt, due principally and therefore similar to that of the base. The repulsive taste of Epsom salts, as also the styptic taste of ink, seems to be compounded of saline and bitter.

Fourthly, the fiery taste, as of mustard, pepper, camphor, volatile oils, and alcoholic liquors. This, however, seems not truly gustatory, but an effect upon the sense of temperature. Peppermint produces a marked sensation of cold. Acrid substances and astringents, as alum, affect the tactile rather than the gustatory nerves, but the effect is usually spoken of as an acrid or an astringent taste.

§ **238.** The sensations attending the exercise of the two objective or percipient cephalic senses are, unless extreme, comparatively slight. We refer to the pleasures or pains that are wholly in sense, to the exclusion of those intellectual delights, and their contraries, of which hearing and sight are the most copious and constant channels. Music is the natural language of sentiment. The discernment of beauty by the eye is its prerogative. But sentiment in general and that of beauty in particular are intellectual correlatives, and not sensations. We are here considering sensations only. A disorder of one of these senses, or its excessive action, may produce great misery, yet their highest pleasures lift us but little above indifference. Still their pleasures do not cloy so quickly as those of smell and taste, and hence we obtain from them a larger amount of sensuous enjoyment than if they also were limited by speedy satiety.

Hearing is more sensuous than seeing (§ 11). Sounds differing in degree cause distinguishable sensations. Those having volume or quantity, as distant thunder, produce a massive sensation. Loud or intense sounds, as loud speaking, produce an acute sensation. Increased intensity gives pain, as a scream. A difference of pitch gives rise to a difference of sensation, grave sounds being generally voluminous, acute sounds intense. A sound may be both voluminous and intense, as a steam-whistle. The crescendo and diminuendo have a special sensuous effect, the former stimulating, the latter depressing, as in the moaning of wind, the swell of a trumpet, the cadences of an orator.

Sounds differing in kind may be distinguished as articulate, musical, and noisy. In the first, the hissing of the *s*, the burring of the *r*, and the hum of the *m*, produce different sensations. In musical tones, the different quality or timbre produces distinguishable sensations, as the same note from a flute, a violin, a trumpet, and a voice. The pleasure of several smooth tones in concord is peculiar, and the highest known to the ear. Noises are unmusical discords varying in degree. They readily become painful, and are characterized as harsh, grating, piercing, shrill, etc. Since we have no ear-lids to protect us, and as sounds go great distances, turn corners, resound, and are very penetrating, it comes that a noisy person is one of the most unavoidable and disagreeable pests that afflict mankind.

§ **239**. The sensation of white light, as diffused solar radiance, is distinctly pleasurable (§ 16). The effect is massive or acute according as the light proceeds from a surface or from points. In cheering influence, it ranks with warmth, nourishment, and repose. Light does not exhaust the nerves as rapidly as odor, savor, or even sound, and hence its influence, though gentle, is by endurance powerful. Its enjoyment, however, requires alternation and limitation. Exposure must be balanced by the repose of darkness. Almost instinctively we seek the cheerful day or the well-lighted room, and on the other hand, the grateful shade, when there is excess of light.

Color is attended by special sensations. Blue and green are commonly reckoned as mild and refreshing; red as pungent and exciting. Perhaps this effect attributed to red is not absolute, but arises from relativity; for, next to white and shades of gray, we are most familiar with blue and green, and hence red, being comparatively rare, is more stimulating. As in sounds, so in colors there are agreeable harmonies and contrasts, and disagreeable discords.

The sensation due to lustre is more pleasant than that from color alone. Lustrous bodies, as opposed to dull, reflect beams of light; as polished gems, metals, and woods; ivory, pearl, silk; hair, teeth, eyes. These owe their specially pleasing effect largely to their lustre. The common use of the words dull, polished, and brilliant, to mark intellectual character, and illustrious to replace renowned, indicates how highly we prize this shining quality.

CHAPTER III.

EMOTION.

§ 240. The discussion of emotions may be introduced by a very brief notice of certain states which influence them. These are the temperament, mood, and disposition of the individual.

Temperament is a term used to designate a special statical relation between body and mind, certain fixed physical and consequent mental characteristics. The physical organization determines a general cast of feeling, causing a tendency to see, as it were, everything colored with some one invariable hue. It determines to what moods the man shall be most commonly subject, and inclines him to special kinds of emotions. The temperaments have long been distinguished as the choleric, the sanguine, the melancholic, and the phlegmatic. The corresponding mental traits in general are irascible, hopeful, despondent, and impassive. Certain external physical marks usually distinguish them, less manifest in old age than in youth, and in many cases failing entirely.[1]

---

[1] The theory is ancient. Galen has an essay to show, "Quod animi mores corporis temperamenta sequuntur." In the history of medicine it holds a prominent place, but is now little regarded by practitioners. It is still recognized in psychology. Dr. Leopold George treats of it ably and at length. See *Lehrbuch d. Psychologie*, p. 125 sq. (1854). He holds that peoples are distinguished by temperaments, that the Spanish and Italians are choleric, the French sanguine, the English melancholic, the Germans phlegmatic. More generally, the Malayan race is choleric, the Caucasian sanguine, the Mongolian melancholic, the Negro phlegmatic. The four periods of life also correspond to the four temperaments; childhood is sanguine, youth melancholic (sentimental), manhood choleric, age phlegmatic. Lotze treats the subject in *Microcosmus*, ii, p. 24 sq. He would substitute sentimental for

Mood or humor differs from temperament chiefly in being less permanent. There is generally a physical predisposing cause together with some casual fact. These being temporary, the consequent mood is transient. He whose liver and finances are in disorder is likely for the time to be in an ill-humor. Moods exist only in that they are a tendency to a special class of feelings, yet they have received numerous distinguishing names, as cheerful, glad, gay, hilarious, lively, etc.; opposed by sorrowful, sad, sulky, solemn, dull, etc. Such contraries cannot coexist, but neither may exist. Moods have characteristic expressions in the features, gestures, gait, and tones of the voice.[1]

Disposition has the permanence of temperament, but is wholly mental. Mind, though in a very important sense a unit, has nevertheless, like the body, a constitution which varies in different individuals as to the degree of its powers. The subjective differences mark the disposition of the man, influencing the kind and current of his feelings, especially of his emotions. Thus we say that one is naturally, or

---

melancholic, a temperament marked by "a special receptivity for the feeling the value of all possible relations," but indifferent to the bare facts. Wundt distributes the temperaments thus: —

	Strong.	*Weak.*
Quick	Choleric	Sanguine.
Slow	Melancholic	Phlegmatic.

He says: "One should be sanguine amid the petty sufferings and joys of daily life, melancholy in the serious hours of life's more important events, choleric toward impressions that fetter one's profounder interests, phlegmatic in the execution of the resolves that have been reached." — *Phys. Psych.*, ii, p. 345 sq.

[1] Anciently moods or humors were supposed to depend on the fluids of the body, hence humor, from *humere*, to be moist. Their transient and variable character is indicated in the Ger. *Laune*, from Lat. *luna*, the moon, upon whose changes the moods, perhaps because they are changeable, were fancied to depend. Cf. Eng. *lunacy*. Cheerfulness and melancholy, *L'Allegro* and *Il Penseroso*, may be taken as generically representative of the opposed classes. So also the temperaments may be reduced to two, the sanguineous and the melancholic; the phlegmatic being a mode of the former, and the choleric a mode of the latter.

perhaps by culture, of a cheerful, proud, meek, modest, timid, gloomy, morose, suspicious, liberal, or sociable disposition.

§ **241.** As sensations are feelings correlative to perception, so emotions and sentiments are correlative to intellect. The specific difference between emotion and sentiment is rationality. Sentiment is rational; emotion is non-rational. This non-rational or irrational character of emotion is purely negative, and means, not that it violates, but that it is not determined by reason. No clear logical process is antecedent, but the feeling arises apparently on the bare empirical presentation or representation of some fitting object. The irrational brute is deemed capable of emotions, such as surprise or fear, but not of sentiments, such as regret or reverence.

A positive mark of emotion is its inhibiting influence on the cognitive and other faculties, and so on reasonable conduct. Emotions, even when moderate, confuse thoughts, so that to be clear we must be calm. At their height, they attain overwhelming force, paralyzing other energies, in accord with the law of inverse ratio. Wonder arrests voluntary activity, and astounds; sorrow dulls, abating interest in things around; joy transports; fear transfixes, putting a restraint upon both intelligence and action. Imagination in certain cases is highly stimulated by emotion, but its voluntary exercise being inhibited, the images are mere phantasms. Fear especially has this effect, for even a slight alarm may conjure up phantoms that terrify.

The diffusive effects of emotions are greater in variety and intensity than those of any other class of feelings (§ 230). More than any other they tend to go out naturally, that is, instinctively, into forms of energetic expression. In them we are greatly moved, hence the word *emotion*. Facial expression, voice, gesticulation, are called into play, and their language, very hard to repress, is so plain as to be read by any observer. Every one knows the start of surprise, the gaping eyes and mouth of stupid wonder, the shout of joy, the groaning or sobbing of grief and sorrow, the smiles of gladness, the sighs of sadness, the scream of terror, the shrinking of bashfulness, the burst of tears whether of joy or of sorrow we cannot always tell. The organic effects are powerful. The pale cheek of fear, and the flushed face of joy, show a notable effect on the heart beats. Hysterics, panting, paralysis, and even instant death are not infrequently the effects of emotion.

§ **242.** There are several distinct groups of emotions whose members differ chiefly in degree. Some of these will now be mentioned by way of illustration. It should be observed that many others exist, many that have received no names, and that complex states, as hope, are often spoken of as emotions because of an emotional element.

Wonder is typical of a group which, in the order of degree, runs about thus: surprise, admiration, wonder, amazement, astonishment. Surprise, the least intense of these, attends a sudden arrest of attention. By it we are awakened, startled, stirred. To admire, in its original sense, is to wonder at.[1] But wonder is a stronger emotion. In it we are transfixed and confounded.

These emotions are almost indifferent to pleasure and pain, especially those in the lower degrees. True, we speak of a pleasant or a painful surprise; but the pleasure or pain seems to be not in the surprise, but in other feelings excited by the surprising object. We are surprised and delighted, or are surprised and grieved.

Wonder has been called the daughter of ignorance; still she is the mother of knowledge. "Admiratio est semen sapientiæ," says Bacon. What is a wonder, a mystery, a miracle?[1] An isolated, unexplained fact. It excites a restless seeking to refer it to some cause or class. This done, the wonder ceases, and we rest.

---

[1] From *ad* and *mirari*; whence also miracle. "Wonder not, nor admire not in thy mind." — *Twelfth Night*, A. 3, sc. 4. Horace says: —

> "Nil admirari prope res est, Numici,
> Solaque, quæ possit facere et servare beatum." — *Epis.*, lib. 1, 6.

§ **243**. Fear is generic of a series which may be stated thus: apprehension, alarm, fear, fright, terror. The emotion is prospective, arising from the representation of evil to come. It is, therefore, especially dependent on imagination, which alone depicts the future; and hence, persons of lively and unrestrained imagination are most liable to fears.

The cause of fear is generally involved in uncertainty or ignorance. Before any great but evident, certain, and well-understood evil, the mind stands in dread, which is thus a sentiment rather than an emotion. Brutes no doubt feel fear in all its degrees, but not dread. Fear arises in prospect of evil unknown in character and amount. Thus fear, as well as wonder, is the offspring of ignorance; but wonder gives birth to science, and science strangles fear. Knowledge is not only power, it is composure. A phenomenon, as a solar eclipse, intelligently understood, may still inspire awe, but no longer terror. One of the benefits of modern science is the subduing of unreasonable fears.[2]

---

[1] Ger. *Wunder*, a miracle, a prodigy, a marvel. So in the last verse of the scene in Auerbach's cellar in *Faust*: —

"Nun sag' mir eins, man soll kein Wunder glauben!"

With like meaning the third stanza of *Venus and Adonis* begins: —

"Vouchsafe, thou wonder, to alight thy steed."

[2] On the other hand, the ignorant are delivered from many fears to which the enlightened are reasonably subject. Belarius says of Cloten: —

"Being scarce made up,
I mean, to man, he had not apprehension
Of roaring terrors; for th' effect of judgment
Is oft the cause of fear." — *Cymbeline*, A. 4, sc. 2.

"Real valor," says Scott, "consists not in being insensible to danger, but in being prompt to confront and repel it." — *Peveril of the Peak*, vol. 2, p. 172, Black's ed. The true opposite of courage, then, is not fear. Again, In all its degrees this emotion is painful. The pain is not only unlike, but may be more severe than physical pain. The cruelty of scaring a child is greater than that of striking it, and the effect is likely to be more permanent. Yet exceptions must be allowed. The agreeable fascination of superstitious fear when moderate, as from a ghost story, is well known; and the fictitious terrors of the drama are a voluptuous excitement.[1]

The organic influence of fear is chiefly a depression or prostration of muscular energy, except in the one form of running away from danger. Extreme terror may so paralyze as to make even this impossible. Involuntary expressions are starting, trembling, staring, huskiness, or perhaps speechlessness. The mouth and lips become dry and parched, the flow of saliva being checked.[2] The hair seems to stand on end, and sometimes turns white.[3] The blood rushes to the heart, leaving the extremities pale. We are appalled, and dismayed or weakened. Cold sweat, convulsions, insanity, and death are not unusual effects of fright.

---

the antithesis of hope is not fear, but despondency, whose highest degree is despair. The negative of fear is simply the feeling of security.

Godly fear, which is in contrast with servile fear, is a composite state, and entirely compatible with the perfect love that casteth out fear. See 1 John 4 : 18.

[1] See Akenside's *Pleasures of the Imagination*, bk. i, 255 sq., ending:—

> "Each trembling heart with grateful terrors quelled."

The solemn Eleusinian mysteries were intended, says Aristotle, to purify the heart by pity and terror.

[2] In India a suspected criminal is made to hold a mouthful of rice, and after a little, to drop it out. If found dry, he is judged guilty, and *vice versa*. It is needless to remark that this "Ordeal of the morsel of rice" may be a fair test of fear, but not of guilt.

[3] That hair turns white under the influence of fear is a well-established fact. That it seems to stand on end is unquestionable; in the bristling of animals it actually does so. The notion is very ancient; *e.g.*:—

> "Obstupui, steteruntque comæ, et vox faucibus hæsit."—*Æneid*, bk. ii, 774.

But see especially Job 4 : 15. Horror, from Lat. *horrere*, to bristle; cf. horripilation.

§ **244.** Gladness, joy, bliss, rapture, contrast with sadness, sorrow, grief, woe. The former are pleasurable emotions, the latter are usually, but not necessarily, painful; for, says Pliny: "Est quædam etiam dolendi voluptas."

Joy arises generally on the fulfilment of ardent wishes, especially if the gratification be sudden and the manner unexpected. Sorrow arises generally on the disappointment of hope, or the experience of loss. Hence these emotions bear a special relation to the desires. They are most familiar to us in connection with affectionate desire, especially in the form of personal love. We are glad on meeting a friend, we rejoice at the restoration of a lost brother, and the highest bliss of heaven is represented as the rapture of perfect love. The pains have like gradation, from the gentle longings of a brief absence, to the overwhelming sorrow of a new-made grave.[1]

The word rapture, indicating the highest joy, well expresses the inhibiting effect of this emotion, in which we are, as it were, seized upon and carried away even from one's self. Transport and ecstasy, expressing the extremes of both joy and sorrow, have a similar significance.

Joy quickens the blood, and often excites violent, and sometimes fatal, palpitations of the heart. The eyes are animated and bright, and sometimes overflow with tears while the mouth is wreathed with smiles. To these expressions are added exclamations, clapping of hands, and other lively gestures, which, when not restrained by a sense of decorum, extend to leaping and dancing, with shouts and laughter. In the burst of grief there is violent agitation of the whole frame, convulsive movements of the features, beating the breast, tearing the hair, rending the garments, wailing, lamentation, sobs, sighs, and floods of tears.[1] Then follow lassitude, debility, dejection of the countenance, and languor in the eyes. Circulation is enfeebled, the face pale, the muscles flaccid, and hence the head hangs, the eyelids droop, and the features lengthen.

---

[1] "There is something in melancholy feelings," says Scott, "more natural to an imperfect and suffering state than in those of gaiety, and when they are brought into collision, the former seldom fail to triumph. If a funeral train and a wedding procession were to meet unexpectedly, it will readily be allowed that the mirth of the last would be speedily merged in the gloom of the other." — *Peveril of the Peak*, ch. 4. Cf. Irving's true and beautiful analysis in the sketch, "The Widow and her Son," beginning: "What are the distresses of the rich!" and in "Rural Funerals," beginning: "The sorrow for the dead is the only sorrow from which we refuse to be divorced."

§ **245**. The emotion that accompanies love in its various forms has no distinctive name. Love strictly taken is an affection, a desire, but is attended by both emotions and sentiments peculiar to it. These, together with the affection, constitute the strongest, the most influential, and most universal passion of human nature. We distinguish fraternal, filial, paternal, maternal, conjugal, and sexual love, and other kinds, but the attendant emotions are so similar that they may be accounted one.

The emotion, though often rising to a great height, is usually gentle, tender, and pleasing, yet strong, even in its mildest form. Its opposite is the painful emotion attending hate. Jealousy is a complex passionate state, involving, among other elements, both these opposites. The inhibiting influence of the emotion on the intellect is well expressed by the old myth that Love is blind.

The chief instinctive expressions of love are reducible to gentle touch. As anger gives a blow, love offers or craves a caress. Fondling or caressing may take the form of the embrace, the kiss, or the hand-stroke, which under restraint are reduced to the hand-shake, linking of arms, and the like, all these being forms of touch.[1]

---

[1] "In joyful moods the features are dilated; the voice is full and strong; the gesticulation is abundant; the very thoughts are richer. In the gambols of the young, we see to advantage the coupling of the two facts, mental delight and bodily energy. Introduce some acute misery into the mind at that moment, and all is collapse, as if one had struck a blow at the heart." — BAIN, *Senses and Intellect*, p. 286. The gay dance is a conventional mode of expressing gladness; the grave march of a funeral train is a conventional expression of sadness.

§ **246**. Sympathy is not itself an emotion, but the experience of feelings, chiefly emotions, similar in kind to those expressed by or known to exist in another person. It is a mental contagion, a spontaneous, unreflecting, irrational impulse, one that sets aside our own personality, and moves us to partake of the pleasure or pain, the happiness or misery, of others. The word is Greek. The corresponding Latin word is compassion, but this is limited in usage to painful states, and is more nearly synonymous with commiseration and condolence. Compassion partakes of the nature of sentiment, and is a condescending term, indicating the feeling of a superior toward an inferior.[2]

---

[1] The origin of this emotion has been sought for in sympathy. Doubtless the two react upon and strengthen one another, but they seem to be distinct and equally original. "In considering the genesis of the tender emotion, in any or in all of its modes, I am inclined," says Bain, "to put great stress upon the sensation of animal contact, or the pleasure of the embrace. Touch is the fundamental and generic sense, the first-born of sensibility [see § 23, note 3]. Even after the remaining senses are differentiated, this primary sense continues to be a leading susceptibility of the mind. The combined power of soft contact and warmth amounts to a considerable pitch of massive pleasure; while there may be subtile influences not reducible to these two heads, such as we term, from not knowing anything about them, magnetic or electric. The strong fact that cannot be explained away is that under tender feeling there is a craving for the embrace. As anger is consummated by knocking some one down, so love is completed and satisfied with an embrace. Touch is both the alpha and the omega of affection. The naïve remark of a child, quoted by Darwin, is true to nature. To the question: 'What is meant by being in good spirits?' the answer was: 'It is laughing and talking and kissing.'" — *Emotions and Will*, p. 126 sq.

[2] Anciently the brain was supposed to be the seat of intellect, the heart of affection and volition, the spleen of latent spite and melancholy, the liver of valor and choler (χολή, bile), and the bowels (τὰ σπλάγχνα) of compassion. "And Jesus, moved with compassion (σπλαγχνισθεὶς), put forth his hand and touched him." — Mark 1:41. See also 2 Cor. 6:12, Phil. 1:8, and Luke 1:78, where σπλάγχνα is rendered "tender mercy." Cf. "Thou thing of no bowels." — *Troil.*, A. 2, sc. 1; cf. sc. 2, 11. Pity is still more strictly a sentiment. See § 252.

Sympathy awakens most strongly towards those we love, less strongly toward strangers, and still less toward enemies. The joys or sorrows of those to whom we are most closely akin, move us most deeply, and in proportion as the points of community diminish, the community of opinions, of situations, of fortunes, in like proportion diminish our sympathies.[1] The opposite of sympathy is antipathy, an emotion of contrariety, involving disgust and repugnance. It is the positive emotion we feel against foreigners, especially those of other and inferior races, and against reptiles. The pure negative of sympathy is indifference.

Sympathy is a blessing that gives and takes. Even the laws of common decorum require us to assume at least the appearance of sadness or of gladness, to smile at meeting, to sigh at parting, to be sorrowful in the house of mourning, and joyful in the house of feasting. To know that another shares our emotions has an especial charm, whether it be for encouragement in arduous struggle, or for endurance in affliction.[2] Thus sympathy lightens distress, heightens delight, and prolongs pleasurable thrills.[3]

---

[1] As we like those to whom we are like, and dislike those to whom we are unlike, so kind induces a fellow feeling that makes us wondrous kind. Cf. Hamlet's first speech: "A little more than kin, and less than kind." Sympathy with kind has given us the beautiful words *kindness* and *humanity*. "Homo sum, humani nihil a me alienum puto." — TERENCE, *Heaut. Tim.*, A. 1, sc. 1.

Poetically, sympathy extends to brutes, and even to inanimate nature.

> "Can man forbear to join the general smile
> Of Nature? The love of Nature works
> And warms the bosom, till at last sublimed
> To rapture, and enthusiastic heat,
> We feel the present Deity, and taste
> The joy of God, and see a happy world."
>
> — THOMPSON *The Seasons*, v, 869 sq.

[2] Madame de Sévigné dit à sa fille malade: "J'ai mal à votre portrine." Dumas fils dit: "On souffre moins en souffrant dans deux cœurs." In diffusing gladness, we give and gain; in sharing sadness we lessen pain. In short, it is the wedding-ring motto: "Sorrows I divide, joys I double." "Jede qual wird leichter, wenn man sie aussprechen kann vor dem Freunde der mit uns fühlt."

[3] Aristotle quaintly says: "It is not easy to maintain a glow of mind by

The influence of numbers is remarkable. The actor or orator is inspired by a crowded house. Tumultuous applause is infectious, and arouses an enthusiasm impossible in a thin assembly. The devotion of a large body of worshippers is easily worked up by sympathy into fanaticism. The *esprit de corps* of a regiment, of a political party, of a nation or race, tells with accumulated force. Panic is sympathetic fear. It is wholly irrational, and is greatly enhanced by numbers. A herd of cattle, a mass of people, are equally liable to be panic-stricken. The contagion spreads with wonderful rapidity, and often leads to senseless and needless disaster.

Since sympathy is an experience of a similar feeling, its expression is the expression of that feeling. We weep with those that weep, and we follow even the pathos of the voice of suffering when we take up the lament.[1] Laughter is catching, and when one of a company yawns, the rest are infected. We shrink when we see the incision of the surgeon's knife; and a mob, looking on a rope-dancer, will throw their bodies into contortions, and take the posture requisite to save the fall.

---

one's self, whereas in company with some one else, and in relation to others, this is easier." — *Nic. Eth.*, bk. 9, 95.

In order to sympathize, there must have been a prior experience of similar feelings. The range of experience fixes the range of possible sympathies. Sympathy cannot be wider, but may be narrower than experience. No man can have sympathy, proper, for the pains of childbirth, or the cares of maternity. The timid man cannot comprehend the composure of the courageous in face of peril. The cold man cannot understand the woes of an ardent lover. The impulsive man cannot sympathize with cautious deliberation. But one may harden his heart, and contemplate all the ills that flesh is heir to, without a responsive throb.

"He jests at scars, that never felt a wound." — *R. and J.*, A. 2, sc. 1.

[1] "Ut ridentibus arrident, ita flentibus afflent
Humani vultus. Si vis me flere, dolendum est
Primum ipsi tibi; tunc tua me infortunia lædent."
— Horace, *ad Pisones*, 101 sq.

CHAPTER IV.

SENTIMENT.

§ **247**. The mark of sentiment is rationality; that is to say, it is correlative to an intellectual intuition, or to the result of a logical process involving pure ideas. Indignation, for example, relates to the idea of personal worth; and a claim to personality can be made only by a rational being. A being destitute of pure reason is incapable of sentiment. In the passions of a raging lion there is no indignation, but only such emotions as attend anger. It is impossible to insult a brute, but a man may easily be wounded in his self-esteem. Sentiment is the echo of reason.[1]

We cannot always clearly distinguish sentiment from emotion, for the two often coexist and intermingle; and moreover, sentiment itself, when intense, becomes emotional in character, at least so far as to produce an inhibiting effect on other faculties. But in extreme cases, as between the burst of sympathetic sorrow and the calm though strong sentiment of pity, the distinction is clear.

A satisfactory classification of sentiments has hardly been attained. For present treatment we divide them into the sensuous and the pure, and subdivide the pure into the intellectual and the moral.

§ **248**. The sensuous sentiments are those experienced in the contemplation of objects of sense, presented or represented. The chiefest is the sentiment of beauty.

[1] "Pascal definissait les passions 'des précipitations de pensées.' M. Wundt définerait voluntiers les sentiments des precipitations de raisonnements." — *Revue de D. M.*, Oct. 15, '83, p. 391.

We should clearly distinguish the sentiment of beauty, and its objective cause or that in an object which makes it beautiful. An object having this quality is approved by the æsthetic judgment, or judgment of taste; and correlative to this judgment is the æsthetic feeling, or sentiment of beauty. The cause or occasion is the objective fact of beauty; the effect is the subjective feeling of beauty; the two mediated by the judgment of taste.

Now, with that character in objects which renders them beautiful, we have strictly nothing to do. The matter belongs to the separate and somewhat obscure science of æsthetics. Nor are we here concerned with the judgment of taste, as to whether it be a pure intuition or a deduction from intuition, or whether it be a consequence of experience and association, or what may be the laws which should regulate its decisions. Though these be psychological questions, they do not belong to the present topic. We are to consider only the feeling, the sentiment.

It is highly and always pleasing. Perhaps none of our sentiments, unless certain moral sentiments be exceptions, are so thoroughly delightful and have so little alloy. A beautiful object excites the intellectual faculties to a free and full activity, whose reflex, therefore, gives pleasure. But many other objects do this, and we should not call every one that gives pleasure beautiful. Yet this is a common habit both in speech and writing. Therefore let us note some limitations.

We hear of physical beauty and of intellectual beauty and of moral beauty; and indeed writers on æsthetics usually pursue the subject under these three heads. Many intellectual and moral sentiments are highly pleasing, and are perhaps in other respects similar to the sentiment of beauty, and hence the word is loosely applied to them. But strictly and properly the true sentiment of beauty arises only on the contemplation of certain objects of sense, presented or represented. All true beauty is physical beauty, and it is exclusively a sensuous sentiment. Its objects are objects either in nature or art, or in imagination. In these intellect discerns the quality of beauty, and thereupon arises the correlative sentiment.

Beauty, says Plato, is the shining of the ideal through the sensible. It is a union of the intellectual with the sensual, of the general with the individual. It is the pure idea manifest in material things, or, as Jouffroy says, it is the invisible expressed by the visible. These definitions recognize that a sensuous element is an essential condition of the beautiful. By the union of the intellectual with the sensual is meant the intellectual manifest in sensuous forms; that is to say, by shape, movement, color, or sound. Take from the Venus of Milo the matter, that is, the marble, with the shape or figure, that is, the statue itself, and preserve only the pure idea — its beauty has disappeared altogether.

Though sensuous in that it is excited only by objects of sense, beauty is not a sensation. In the absence of a real object of sense, and therefore of sensation, memory recalls, or imagination creates, beautiful objects; and since ideal objects are faultless, and free from the grossness of reality, the sentiment, when excited by ideal objects, excels in purity, delicacy, and refinement. Hence the especial charm of poetry and fiction, and a superiority of literary over other fine arts. Nor is beauty an emotion. The irrational brute is believed to be capable of both sensation and emotion, but not of the feeling of beauty, it being experienced only by rational beings. Nor is it a desire, for beauty pleases without interest in the object.[1]

Though not a sensation, the æsthetic feeling, being sensuous, is directly conditioned on sense-perception. But none of the organic senses, or smell, or taste, or touch, or muscular sense, can give rise to it.[1] This is the more worthy of note since the æsthetic feeling and judgment borrow the name of the sense of taste, and in reference to beauty, we speak of the pleasures and decisions of taste.[2] Hearing and sight alone are æsthetic senses; that is to say, audible or visible objects only, either present to sense, or represented by memory or imagination, can become the basis of æsthetic sentiment, give rise to it, and truly combine with it.

---

[1] See Kant's *Critique of Judgment.* Beauty tends strongly to excite desire, especially the desire of possession. As it is impossible to attempt a thing unless we believe it practicable (§ 202), so is it impossible to desire a thing unless we believe it attainable (§ 255). A sunset sky is often very beautiful, but we have no interest in it, *i.e.* we do not desire it.

§ **249**. The sentiment of the sublime, of the picturesque, and of the ludicrous are akin to, yet differ from, that of beauty. The beautiful soothes, the sublime agitates; the beautiful attracts without repelling, the sublime at once does both; the beautiful affords a feeling of unmingled pleasure in the full and unimpeded activity of our cognitive powers, whereas the feeling of sublimity is a mingled one of pleasure and pain — of pleasure in the consciousness of strong energy, of pain in the consciousness that this energy is vain. It is highly probable that the essence of the sublime is the idea of infinity. The indefinitely great, transcending our grasp of thought, suggests, or for consciousness is equivalent, to infinity and so becomes sublime.[3]

---

[1] An exception should perhaps be taken in favor of the congenitally blind, who probably appreciate beauty of figure given in handling.

[2] Fr. *gôut*, from Lat. *gustare*, whence also 'disgust.' Ger. *Schmack*, a taste, hence a smack, a kiss. Also *Geschmack*, whence *Geschmackslehre*, æsthetics, or the theory of taste. The Grk. αἴσθησις means, primarily, perception by touch.

James Russell Lowell said very neatly: "Good taste is the conscience of the mind, and conscience is the good taste of the soul."

[3] "Baffled in an attempt to reduce an object, such as the extent of the starry heavens, their millennial cycles, or the omnipotence that projected them, within the limits of the faculties by which it must be comprehended, the mind at once desists from the ineffectual effort, and conceives the object not by a positive, but by a negative notion; it conceives it as inconceivable, and falls back into repose, which is felt as pleasing by contrast to the continuance of a forced and impeded energy." — HAMILTON, *Meta.*, p. 629.

"Me quædam divina voluptas
Percipit, atque horror." — LUCRETIUS, *De Re. Nat.*, iii, 28.

Of the pleasing sentiments of the picturesque and the ludicrous it is sufficient to observe that as in beauty and sublimity there is an ascent of the object above a median level, so in the picturesque and the ludicrous there is a descent below this plane of indifference.[1] A corresponding contrast exists between the feelings, yet they pass readily and quickly from the highest to the lowest extreme. The painful contrary of the sentiment of beauty is disgust at ugliness or deformity; but the sentiment of the ludicrous, exciting laughter, is a sort of mental nausea ejecting the logically absurd.[2]

§ **250.** The pleasurable sentiment of utility is quite distinct from that of beauty, though often confounded with it. Beautiful objects please directly and of themselves. Useful objects please indirectly and not of themselves, but by relation to an end which as means they are fitted to attain. "Pulcrum esse quod per se ipsum, aptum autem quod ad aliquid accomodatum deceret."[1] Neither conditions, neither determines, neither explains the other, though they often coexist. A Greek column affords both kinds of pleasure, it being both beautiful in form and useful in support. But an object may be useful without beauty, as a canal; or beautiful without utility, as a cascade. It is sometimes said that the sentiment of utility arises in view of a means to ulterior pleasure. Still it is as remote as ever from the sentiment of beauty.

---

[1] Unity amid variety is perhaps the essence of beauty. But variety without unity, if there be no discord, is pleasing. Now a picturesque object is one determinately varied, and so abrupt in its variety, presenting such an irregularity of broken lines and angles, that to reduce it to unity is evidently impossible. So, giving up unity, the mind falls into pleasing play amid this variety. In a landscape a church spire is not picturesque but graceful; a dilapidated windmill is not graceful but picturesque. A race-horse has beauty, but a rough donkey with his panniers makes a better picture. A stylishly dressed lady, however beautiful, is not picturesque, as the fashion-plates prove; but a peasant or a ragged beggar girl is a favorite subject with the painters. The waste and calm ocean is sublime; a ship sailing on its placid bosom is beautiful, a wreck upon its rugged cliffs is picturesque.

[2] The sentiment or sense of the ludicrous is a highly agreeable mental titillation attending an appreciation of wit or humor. Aristotle tells us that it arises from "some error in truth or in propriety, neither pernicious nor painful"; Cicero, from "that which without impropriety notes and exposes an impropriety," or from "a sudden conversion into nothing of a long-raised and highly wrought expectation"; Kant, from "the sudden transformation of a sense expectation into nothing"; Hobbes, from "a sudden glory arising from a sudden conception of some eminency in ourselves, by comparison with the infirmity of others"; Johnson, from "a kind of *discordia concors*, a combination of dissimilar images, or a discovery of occult resemblances in things apparently unlike"; Hamilton, from "wit, which, like a flash of lightning, discovers similarities between objects which seemed contradictory"; Bain, from "the degradation of some person or interest possessing dignity, in circumstances that excite no other strong emotion." But Spencer rejects degradation as a governing circumstance, saying: "There are many

§ 251. Under the pure or non-sensuous sentiments, let us first note those that are intellectual and not ethical. They are intellectual in that they attend the exercise of our logical faculties in connection with pure intuition, the ultimate basis of all true sentiment.

The simplest one that does not require a personal object is perhaps the sentiment of truth. This is the pleasant feeling we experience on recognizing that our conception corresponds to its object, that the judgment is true. It is the pleasure of knowledge. It is distinguishable specifically from, though

instances in which no one's dignity is implicated, as when we laugh at a good pun." The instance seems badly chosen, for in punning a good word is usually dragged down to a base level, or if not, yet wit itself is therein brought low, or at least the punster degrades himself in condescending to quibble.

As to expression: "The lips are, of all features, the most susceptible of action, and the most direct index of the feelings. If an idea be exceedingly ludicrous, it is in vain that we endeavor to restrain their relaxation and compress them." — Bell, *Essay*, ch. 6. "During excessive laughter, the whole body is thrown backward and shakes, or is almost convulsed, the respiration is much disturbed, the head and face become gorged with blood. Tears are freely shed. Hence it is scarcely possible to point out any difference between the tear-stained face of a person after a paroxysm of laughter and after a bitter crying fit." — Darwin, *Expression*, ch. 8.

[1] St. Augustine in *Confessions*, lib. iv, cap. 25.

always accompanied by, a high degree of that general belief which attends all forms of knowing (§ 227).[1] In the observation of the facts of nature or art, in the identities established by science, the abstractions, generalizations, inductions, deductions, and classifications that constitute progress in knowledge, there is a keen positive enjoyment, often referred to as intellectual delight. Contrary statements, opinions, or appearances are disagreeable, operate as a painful jar, and stimulate a desire for reconciliation that greatly promotes the extension and perfection of knowledge.

The sentiment of truth often rises to enthusiasm, and is attended by a devotion that shows it to be one of the most powerful elements of human nature. Science as well as religion has had its army of martyrs. But the sentiment, as merely subjective, determines nothing in regard of objective truth and error, and men will lay down their lives in support of an error mistaken for truth, as readily as in testimony of truth itself.

The charm of property is also a powerful sentiment. It is perhaps a greater stimulant to human industry than want. Hunger presses; but having beckons. It will speedily convert a wilderness into gardens. It builds cities, and heaps up useless riches.

The pleasure of pursuit must not be unnoticed. It is often greater than that of possession. After the chase, who cares for the game? Suspense is in itself a painful feeling, but it seems to be an essential ingredient in the intense pleasure of pursuit, for "the end of uncertainty is the death of interest."[1]

---

[1] Mere belief is not markedly pleasurable. Doubt or uncertainty, when predominant, is an uneasy, disagreeable and painful feeling. We earnestly seek to escape it, and often, when a legitimate resolution of the doubt is not at hand, the situation is so intolerable that we escape by violence, by a plunge into belief, or, more simply, by adopting a groundless belief. This accounts for much error (§ 219). The tenacity with which we cling to our beliefs, refusing to listen to reason against them, is perhaps largely due to our unwillingness to fall into doubt and uncertainty. The transition from predominant doubt to predominant belief is highly agreeable. But probably this pleasure is merely relative, the pleasure of relief (§ 228). The feeling of belief is one of settled steadiness, with but little of pleasure or pain.

The pleasurable sentiment attending freedom arises upon release from restraint. Consciousness of restraint is painful, it being a suppression of natural energy. Indeed in these opposites we have the recognized basis of all pleasure and pain (§ 228). We speak here more particularly of physical restraint as opposed to freedom of movement and speech and conduct. Confinement is a severe punishment that may amount to torture, especially with the young. The pleasure of release is proportionally great. As liberty is merely the negative of constraint, so the pleasure of liberty is merely relative, existing only by contrast; it is the pleasure of deliverance. When the contrast disappears the pleasure would also disappear, were it not that the fact of liberty suggests the positive pleasures of pursuit. Otherwise pleasure is felt, not in the mere negative fact of freedom, but in the free exercise of one's powers.

§ **252.** Pure intellectual sentiments that require a personal object are numerous, and as in the previous section a few typical examples must suffice.

---

[1] *Heart of Mid-Lothian*, ch. 1. The attraction of a plot, as it is gradually unfolded in a drama or novel, is in an ideal pursuit. The pleasure of field sports lies chiefly in the interest of suspense in pursuit. The search and uncertainty make a charmed interval of delay, and when the game is started there comes a good run. The fascination of gambling finds much of its explanation here, and the more the uncertainty, the more the excitement. In many activities of life the contest pleases more than the victory. The past does not interest, the present does not satisfy, the future alone engages us. "Man never is, but always to be, blest." "Things won are done, joy's soul lies in the doing." — *Troil.*, A. 1, sc. 2.

"No endeavor is in vain,
Its reward is in the doing,
And the rapture of pursuing
Is the prize the vanquished gain."

So is it in the pursuit of truth. We enjoy the search more than the finding. Says Malebranche: "Si je tenais la vérité captive dans ma main, j'ouvrirais la main afin de poursuivre encore la vérité."

The person that excels in power, intellect, or goodness, we honor. This sentiment is somewhat different in kind and degree from admiration or esteem. Admiration is also a response to excellence, but is more condescending than honor. Esteem refers to the useful qualities of those who do well their part in life. Industry, integrity, and good sense command esteem at least, perhaps admiration, but hardly honor. The opposites are disdain, contempt, and scorn. These, like the ludicrous, have special physical expressions.[1]

A judgment of the ability and good will of another toward us is attended by the sentiment of trust or confidence, a consoling, cheering, and elevating feeling. The reverse judgment is attended by suspicion and distrust. Some persons, especially children, are naturally trustful, others suspicious. Faith is a complex feeling, combining trust and belief with hope, which last consists of a desire and an expectation also involving belief.

The sentiment of pity arises in view of another's helplessness, trouble, misfortune, distress, pain. It is often, though not necessarily, attended by sympathy; for the rich may pity the poor, the wise the ignorant, the innocent the guilty, but cannot properly be said to sympathize with them. It is a condescending sentiment, highly pleasurable, but easily turns to contempt. It excites a desire to afford relief, and thus is a source of beneficence. Like sympathy it is greatly promoted by nearness of relation, of kind or kin, and then in its gentle, continuous form it becomes loving-kindness (§ 246). As though it were the very essence of our nature, it is often called humanity; and a pitiless, hard-hearted deed of cruelty we pronounce inhuman.[1]

---

[1] "The most common mode of expressing contempt," says Darwin, "is by movement about the nose or round the mouth. The nose may be slightly turned up, which apparently follows from the turning up of the upper lip. These actions are the same with those we employ when we perceive an offensive odor. We seem to say to the despised person that he smells offensively, in nearly the same manner as we express to him, by half shutting our eyelids or turning away our faces, that he is not worth looking at." — *Expression*, ch. 11.

§ **253.** In the exercise of self-perception or introspection (§ 108 sq.), we recognize as belonging to ourselves attributes which when observed in other persons excite in us the sentiments of esteem, admiration, and honor, or their opposites. This discovery produces a peculiar effect. There is great pleasure in contemplating our own excellence or absolute worth; great pain in view of our inferiority or lack of estimable qualities. These sentiments are known as self-esteem, self-complacency, self-confidence, self-conceit, vanity,[2] pride. Opposites are humiliation, mortification, chagrin, humility. The pleasure or pain of these feelings is greatly intensified when our character or conduct calls forth open manifestations of corresponding regard from those around us.

The sentiment of personal honor is at once most powerful, delicate, and sensitive. It cannot be touched in a high-minded person without stirring and putting into commotion his whole being. An appeal to it is sometimes more binding than an oath, and a trespass upon it makes life intolerable.

The thought of being dishonored by another excites the sentiment of humiliation. We feel as if thrown to the ground and degraded. We are cast down, but not destroyed. When, however, our own judgment also condemns us, the humiliation may turn to mortification. We are then cast down and destroyed, figuratively put to death.

The sentiment of humility is different from humiliation. It is not painful, and does not involve a sense of dishonor. It is the opposite of false pride. It admits of a high estimate of one's self as compared with others, but implies a low estimate as compared with an ideal standard. When this standard is ethical, humility becomes a moral sentiment.[1]

---

[1] Pity, though originally the same word as piety, does not convey a distinctively religious sense. It has been thought that a sort of self-pity explains "the luxury of grief." Kant wondered that there could be "so much kindness and yet so little pity in the world."

[2] "La vanité, c'est le mal de tous; il y en qui en meurent, mais le plus grand nombre en vit."

§ **254.** Pure moral sentiments are now to be considered. They are pure in being non-sensuous. They differ from the exclusively intellectual class in being both intellectual and ethical. Their essential basis is an intuition of moral law by pure reason; the cognitions to which they are correlative always involve ethical elements. The vast, weighty, and all-pervading feeling or sentiment of moral obligation, the sentiment of duty, attending the intuition of moral law in its specific applications, may be taken as generic, or as implying the moral sentiments generally.[2]

Inasmuch as moral law unconditionally commands us to perform our duties, implying that we are able to fulfil them, there is attributed to man an absolute worth, an absolute dignity. The sentiment which the manifestation of this worth inspires is called respect. One cannot be said to feel respect for another, nor self-respect, except in view of moral worth or dignity. Disrespect excites indignation, leading to resentment. Indignation is a painful sentiment, yet as a revolt and self-assertive of worth, it consoles. When respect rises into reverence, the ethical element is not merely unquestionable, but becomes predominant. The reverence we have for Cato is because we see in his character and conduct an embodiment and manifestation of moral law. The omnipotence and omniscience of Deity may excite our highest admiration and awe; but only before the white-heat of his holiness do we feel reverence, deepening into veneration and adoration.

Another class of moral sentiments arises as correlative to a moral judgment on the agent. This judgment keeps a particular action in view, but bears on the agent rather than on the action. It does not relate to his general character, but to him as doing some specific act or acts. This agent may be some other person; then, according to my judgment, I experience sentiments of approbation or disapprobation, exciting a disposition to reward or punish him. The agent may be myself in conscious action; then, according to my judgment on my own conduct, I experience self-approbation or self-condemnation, self-reproach, shame, remorse, together with a sentiment of ill-desert, that sometimes prompts a self-surrender to justice. If I habitually practise self-excuse, self-respect diminishes, the sentiment of shame is blunted, and the result is shamelessness. This may consist with pride, but not with self-respect. While self-condemnation is a lasting pain, self-approbation is one of the purest and most intensely pleasurable feelings of which the mind is capable.

---

[1] "The first and last step in the education of the scientific judgment," says Faraday, "is humility." — See his admirable lecture in *Christian Thought* for Nov. 1884. "The kingdom of men," says Bacon, "which is founded in knowledge, cannot be entered in any other manner than as the kingdom of God is entered, namely, by becoming as little children." Humility is the ground (*humus*) whence all the virtues spring.

[2] On these feelings, see *Edinburgh Review* for 2d quarter of 1883, p. 236 sq.

Gratitude, the sentiment awakened by the good offices of another, is both natural and ethical, but not necessarily religious. It inspires love, prompting a return of pleasure for pleasure received, and is itself an added pleasure. It enters, along with kindness, largely into the forms and substance of true politeness, and is the special and chief lesson taught by the parable of the Good Samaritan. It is essential in good character and is ennobling. Gratitude to God is its most obligatory form. The lack of gratitude to a benefactor is considered brutish, and nothing is more abhorrent or inflicts keener pain than positive ingratitude, a return of evil for good. This vanquished Cæsar, and maddened Lear.

The sentiment of justice, or what is obligatory in the mutual relations of life, is closely allied to gratitude. Much may be and is due to those from whom nothing has been received; to accord it is justice. Injustice, like ingratitude, injures not only the receiver, but the doer of it. Socrates asks: "Which is the greater evil, to do or to suffer wrong?"

PART FIFTH.

DESIRE.

CHAPTER I.

ITS RELATIONS.

§ 255. Desire is logically defined as the subjective conation (§ 71). More fully, it is a conscious activity marked by a want implying an impulse or tendency relative to an object seemingly fitted to the want (§ 74). It has two specific modes, desire proper and aversion.

The relation of desire to the other generic powers is important, and should be carefully considered. Let us observe first its relation to cognition.

Although desire is strictly a subjective state, it is often said to have an object, that is, the thing desired. But it is evident that the object thus spoken of is properly an object of cognition, which being in some sense known, comes to be desired. A thing wholly unknown, neither presented nor represented, cannot be desired. *Ignoti nulla cupido.* In order to desire, there must be a logically antecedent and causally coexisting cognition of an object, with its correlative feeling. Desire is, therefore, conditioned on cognition.[1]

---

[1] "In cognition there exists no want; and the object, whether objective or subjective, is neither sought for nor avoided; whereas, in conation there is a want, and a tendency supposed, which results in an endeavor, either to obtain the object, when the cognitive faculties represent it as fitted to afford the fruition of the want; or to ward off the object, if these faculties represent

Desire impels toward the attainment of an end. But an end requires means. Hence, not only is the end to be cognized, but the means must be conceived, thus calling into exercise the teleologic judgment. Then the conceived means also comes to be desired in order to the desired end. So it is that desires are conditioned secondarily and specifically on the teleologic judgment.

An end may be desirable, that is, fitted to excite desire, but if judged unattainable, it cannot be truly desired. It is pronounced hopeless, desire being essential in hope. Hence it is that desire is conditioned also on a practical judgment, that is, on a judgment that the end is possibly attainable. In still other words, it is limited to what is deemed practicable in the future, implying expectation and hope.[1]

Desire has respect to the future alone. I cannot desire what is past, for it has ceased to be; nor what is present, for it is already in hand; I desire only what may or can be. Therefore it is definitely conditioned on imagination, which alone represents the future. Moreover, since desires impel to actions, and are therefore practical in character, they are still more especially conditioned on the practical imagination which represents also the means requisite to the end or final cause of the primary desire (§ 202).

§ **256**. It is very important to observe closely what desire has in common with feeling, and especially by what it is distinguished therefrom, the two being commonly confused

---

it as calculated to frustrate the tendency of its accomplishment." — HAMILTON, *Meta.*, p. 572. Ὀρεκτικὸν δὲ οὐκ ἄνευ φαντασίας. — ARISTOTLE, Περὶ ψυχῆς, iii, 30.

[1] To wish has a wider meaning than to desire. They are often used synonymously, the object lying in the future, *e.g.* I wish, I desire, I hope, etc., to be there. In other cases a wish relates to what is deemed desirable but impracticable, coupled with regret, the object lying in the past, present, or future, *e.g.* I wish (not desire) I had been there; I wish I were now there; I wish I could be there. Wish and regret are positive and negative correlatives, *e.g.* I wish I could go; I regret I cannot go.

and treated indiscriminately, usually under the title of sensibilities (§ 225 and § 231, note).

Both desire and feeling are wholly subjective states, and both are modes of consciousness; but while feeling is characteristically a state of self-consciousness, a mode of consciousness and nothing more, desire is a state of consciousness and something more as a specific difference; it is consciousness of a want, or rather a conscious want, together with an impulse toward the object wanted. This want and impulse are wholly absent from feeling. Feeling gives rise to desire, and coexists with it, and is modified by it; but the intimacy of this relation should make us only the more careful to mark clearly the important distinction between them.

Pleasure and pain are, on all hands, admitted to belong to feeling; that is, all feelings are either pleasant or painful (§ 228). But this is not commonly admitted to be a mark of feeling exclusively characterizing it, and so distinguishing it from desire. On the contrary, desires are usually considered as in themselves states of pain exciting an effort to escape, and their satisfaction is regarded as equivalent to pleasure.[1] This view confuses distinct psychical powers, obscures the doctrine of conation, especially of motive, by making pleasure and pain all dominating, and so leads to utilitarianism in morals, and to pessimism in philosophy.

Yet it seems that a very little consideration is sufficient to clear the confusion. Pleasure and pain belong to feeling only, and so mark it off. Desire is marked by want, a state of unrest, which must be distinguished from pain, implying an impulse leading to satisfaction, which must be distinguished from pleasure. Certain feelings, pleasant or painful, excite desire; certain others attend it; certain others arise on its gratification. All these must be set apart from the desire itself, as dissimilar antecedents and consequents, and not mistaken for essential characteristics or inherent marks.

---

[1] So Kant, as quoted by Hamilton: "We find ourselves constantly immersed in an ocean of nameless pains, which we style disquietudes or desires; and the greater the vigor of life an individual is endowed with, the more keenly is he sensible to the pains. Man thus finds himself in never-ceasing pain; and this is the spur for the activity of human nature. Pleasure is nothing positive; it is only a liberation from pain, and therefore, only something negative. The mind is harassed by a multitude of obscure uneasinesses, and it acts for the mere sake of changing its condition." — *Meta.*, p. 600.

The distinction becomes clearer on observing that the unrest of desire is often attended by highly pleasurable feelings; as in the enjoyment of many kinds of pursuit, urged by a desire to attain an object.[1] On the other hand, a satisfaction is often eagerly sought which, it is well known, will be attended by painful feelings throughout, as in nursing the sick, or engaging in a duel.[2] Thus the propulsion of desire to satisfaction often overrides and disregards all consideration of pleasure or pain, either present or prospective, or both. In general, it is true, we desire what will give pleasure, and have an aversion for what gives pain; but numerous exceptions in practice indicate that pleasure or enjoyment is only one of the many and various ends desired, and that present or prospective pain is only one of many that excite aversion.

---

[1] See § 251. "Sordet cognita veritas," says Seneca.

"All things that are
Are with more spirit chased than enjoyed." — *M. of V.*, A. 2, sc. 6.

"Our hopes, like towering falcons, rise
At objects in an airy height;
But all the pleasure of the game
Is afar off to view the flight." — PRIOR.

Says Aristotle: "The end of philosophy is not knowledge, but the energy conversant about knowledge." And Jean Paul Richter says: "It is not the goal, but the course, which makes us happy."

Pursuit may properly be taken in a wide sense as meaning the activity excited by any and all desires. That it is pleasurable is in direct contradiction of the doctrine that desires are pains. Pleasure attends normal activity. Surely, desires have a normal action. Dissatisfaction is the unrest of desire. When neither overstrained nor impeded, it is not a painful, but a normal activity. The fulfilment of desire is satisfaction, satiety (from *satis*, enough), and in it the desire ceases to be. A distinguishable result of pursuit, in its wide sense, is gratification, *i.e.* my desire is gratified. This generally implies a pleasant feeling, with a continuance of the desire. When pursuit is followed by success, taken in a similarly wide sense, this is often, though not always, pleasant. It may be an inferior degree of pleasure, momentary as compared with that of pursuit; yet there is usually a pleasure in success, experienced though unsought. "Mais le souffrance empoisonne les succès qui ne sont pas legitimes." — COUSIN.

[2] The duellist wants "satisfaction." He knows very well that all its concomitants and all its consequents are painful, yet he insists upon it, and eagerly seeks it. Othello, too, wanted "satisfaction," with all its horrors. Anger, a malevolent desire, seeks its end in disregard of present and prospective pain. The miser in his misery continues to indulge his avarice. Duties

Another mark of difference between feeling and desire is that feeling, pleasant or painful, belongs exclusively to the present, whereas desire and aversion have reference exclusively to the future, the impulse being either to maintain a continuance of the present state, or to exchange it for another. Hence, also, desire is more persistent than feeling.

Feeling stands related to desire as cause to effect. The sensations of an empty stomach excite desire for food, those of a full one excite loathing. Pity excites inclination to help; indignation arouses anger; wonder, curiosity. When there is no feeling, there cannot be desire. In this important sense desire is conditioned on feeling.

§ **257.** Desire is the subjective element in conation, correlative to volition, the objective element. These complement and condition each other. That the exercise of volition or will is conditioned on desire is obvious. There can be no choice except between desired objects, and no effort except by the impulse of desire. In this relation desires are called motives, being the efficient causes of efforts, and so of actions.[1] On the other hand, desire is conditioned on the

---

are often irksome, sometimes painful, but we do them. Many men grumble when paying debts, and perhaps no one enjoys "paying for a dead horse." But why multiply cases? A very little observation would seem sufficient to convince us that we often, nay, almost constantly, pursue desired ends in utter disregard of the pleasure or pain that attends them, or that is consequent upon them. Indeed, we look upon the one who merely seeks pleasure and avoids pain, the mere pleasure-seeker, with contemptuous scorn.

[1] A motive moves us. The word expresses the prompting, impulsion, pressure, tendency, propensity, or inclination of desire. These words are originally mechanical. The term motive is sometimes, though less properly, applied to the final cause, the end or object desired.

existence of will; for it implies preference, which implies choice, an element of volition; and again the impulse of desire implies a tension or pressure to an endeavor or effort, another element of volition. Clearly there can be no impulse except in the presence of something impelled. The relation of desire and volition, therefore, is similar to that of feeling and cognition. They always coexist, conditioning and complementing each other.

It is well to observe that strong will implies strong desire, and weak will weak desire. But strong desire may be accompanied by a weak will, and weak desire by strong will. Strong desires in conflict are generally equivalent to a weak desire, but sometimes in this case will shows an independent strength in repressing one of the opposites, and conforming determinately to the other.[1]

§ **258.** Thus far we have had in view only the rational desires, that is, desires in which the impulse arouses deliberation, involving thought, which serves to guide the choice and effort of volition. These desires are not merely conditioned on the cognition of an object, but they are also regulated by intelligent choice between alternatives. But desires, probably all of them, have also primarily an unintelligent exercise, without deliberation and without choice, as in the natural prompting or propensity of hunger, of curiosity, of anger, and of maternal love (§ 195). The primary impulse, at least, is blind and fatal and unregulated, and the consequent volition is not free, but consists merely of a directly determined effort. We discover here the class of purely psychical instincts, co-ordinate with the physical and the psycho-physical instincts heretofore indicated (§§ 36, 230).

---

[1] In a previous section it is said that I cannot desire the unattainable. It follows that I cannot try to attain it, the desire being a necessary antecedent to the voluntary effort. Accordingly, it was said, in discussing the practical imagination: "I cannot even attempt what I judge and believe to be impracticable" (§ 202). Judging the end unattainable, I cannot truly desire it, and so cannot really try to reach it.

CHAPTER II.

ITS KINDS.

§ **259**. The impulse, tendency, or pressure of desire is either towards taking or towards giving. The want calling for satisfaction must therefore be understood to imply, in some cases, a lack craving supply, as, I want to know; in other cases, a wish to bestow, as, I want to help. This furnishes a primary division. Again, the desires that crave are fairly subdivided into those that have a physical basis, the appetites, and those that are purely psychical, which we shall call the appetences.[1] This distribution, connecting with that to be found in § 231, appears in the following: —

SCHEME OF DESIRES.

- II. Conation.
  - 1. Subjective conation, or Desire.
    - A. Craving.
      - (1) Appetite.
      - (2) Appetence.
    - B. Giving.
      - (1) Affection.

The craving desires incline toward impersonal objects. They urge me to appropriate what seems fitted to benefit myself, and so accounted a gain. The giving desires incline toward persons. They urge me to bestow from my own resources what seems fitted to benefit another. Let us make a further distribution. The subjoined lists are by no means exhaustive. They are given for the sake of more specific statement, and as a basis for subsequent discussion.

---

[1] Appetence is the same word as appetite, from *ad* and *petere*, to seek for (see next note), and has been likewise narrowed to the same meaning. Justified by its etymology, we nevertheless make bold to use it as the much-needed name of the second class of desires.

APPETITES.	APPETENCES.	AFFECTIONS.
For Food.	For Living.	For Kindred.
Drink.	Pleasure.	Friends.
Sleep.	Property.	Country.
Sex.	Knowledge.	Mankind.
Movement.	Power.	God.

Each of the craving desires has its opposite aversion. Appetite is opposed by disinclination, distaste, disgust, consequent generally upon satiety; appetence also by disinclination, or the more purely negative disregard or indifference. These contraries have not been included in the foregoing distribution, it being deemed superfluous, since each positive implies its negative. Beside the benevolent affections mentioned, there is a series of aversions, the malevolent affections; as anger, envy, jealousy, misanthropy, etc. Some further notice of these will be taken subsequently.

§ **260.** Appetite is the craving produced by a recurring need of corporeal life.[1] Appetites correspond in general with sensations. They are always preceded and attended by sensations as causes. The sensation, however, may exist without the appetite; as, I may feel dry without being thirsty, especially when my attention is otherwise engaged. The sensations that induce appetite belong chiefly to the *sensus vagus* (§§ 29, 233). When any member of this sense excites in us a want tending to the appropriation of some material thing which will satisfy or appease it, this is properly an appetite. As the basis is physical, so also in general is that which appeases.[2]

[1] The Romans and the Latinists used the word *appetite* as coextensive with desire. Thus Cicero: "Motus animorum duplices sunt; alteri, cogitationis; alteri, appetitus. Cogitatio in vero exquirendo maxime versatur; appetitus impellit ad agendum." Cf. § 71, note.

[2] Appease, from *ad pacem*, at peace. Plenty, from *plenus*, full. Since appetites originate in, and are attended by, sensations, their excessive indulgence is called, in a bad sense, sensuality.

Hunger, a desire for food, is rightly the typical appetite. It is due to a state of the stomach. Thirst is distinguishable as a call for cooling liquid in a dry and heated state of the air-passages and skin. The desire for fresh air may be regarded as an appetite, having its origin in pulmonary sensations. Drowsiness, or a desire for sleep, should perhaps be included. These have reference to the maintenance of life. Carnal concupiscence, the sexual appetite, has reference to the propagation of life. It is compatible with sexual love, but should be marked as quite distinct.[1] The foregoing are natural appetites, and each has its instinctive, original, and powerful phase. Morbid and artificial appetites are acquired under the influence of habit, and are transmittible by heredity; as, the appetites for tobacco, liquor, and opium. It would be hard to distinguish from appetites the nameless longings which arise in great number and variety out of numerous subjective sensations, — such as weariness, restlessness, faintness, etc.[2] In general, these prompt an escape from pain, and so might be referred to the class of aversions.

But moreover, we need light and sound and muscular exercise for health and comfort, and the deprivation of any one of these brings on a disagreeable state of unrest which longs for relief. But this is not strictly appetite. Even taste, apart from stomachic sensations, hardly affords a basis for an appetite. Still, such is the recurring need, and so thoroughly subjective is the craving for physical exercise, that we have ventured to include this in the list as representative of a large and important class of corporeal wants not elsewhere considered.

---

[1] To list or listen, Anglo-Saxon *lustan*, to incline or lean towards; an expression of desire. Lust means, primarily, desire in general, but has acquired a bad sense; as, lust for gold. There is a tendency to limit the meaning to the above-named appetite.

[2] When one wants to sneeze, it has been said, he would rather do that than anything else in the world. Certainly, not for the pleasure of it, though there be pleasure in it. The want attending excrementation in general may be construed as appetitive aversion.

Besides their physical character, another mark distinguishes appetites from the remaining desires. It is their periodicity. They arise at intervals, more or less regular, and become temporarily appeased and quiescent on satisfaction. Hence the term satisfaction, with its cognates, to satisfy, to satiate, satiety, etc., is better applied to appetites than to psychic desires, which are rarely satisfied.

§ **261.** The desires marked in the scheme as appetences are psychic desires. Appetence is the craving produced by a recognized need of mental life. In a loose and general way, appetences may be said to correspond to emotions as their causes; *e.g.* wonder begets curiosity. Like sensation and emotion, appetite and appetence seem to be common to man and brute; appetites predominating in the brute, appetences in man, perhaps because the latter call for higher intelligence. Appetence is more persistent than appetite, and is gratified rather than satisfied; for instead of ceasing, it is often stimulated by supply. Like appetite it is directed to things, or to persons viewed as mere things. It takes the form both of desire proper and of aversion. In the one, it craves things seemingly fitted to gratify; in the other, it avoids things distasteful. In either case, the attainment is accounted a personal gain. Being cravings, longings for a gain, appetences as well as appetites are primarily altogether selfish in their aims and ends.

In noting a few illustrative examples of the appetences, we name, first, the desire to continue in life, leading to efforts for its conservation. This has a powerful instinctive exercise, manifest in a blind impulse to self-preservation in case of danger; but also an intelligent exercise, manifest in careful provision for its needs, and in energetic actions thoughtfully combined to compass the end. It enters largely into all human conduct, and is so strong that, when life is threatened, it commonly overrides all other interests, and is profoundly oblivious even of duty. The natural terror of death is assuaged by the belief that it is not annihilation, that there is an after-life; and we are also consoled by the thought that we shall still live in our descendants. Circumstances may induce a morbid aversion to life. Tedium has already been noted as productive of this effect. "I'm aweary, I'm aweary; would to God that I could die!" Hence, and for other bad reasons, suicide.

We next observe that there is undoubtedly a universal desire for pleasure and an aversion to pain. Accordingly, one is prone to seek things calculated to please, and to avoid those that give pain. In the Epicurean, the mere pleasure-seeker, this desire overrides and subordinates all others. He makes not only his appetites and appetences, but even his affections subserve this end. He desires certain things solely for the pleasant feeling they excite, and earnestly avoids all those that offend, never admitting a present pain except as a means to some ulterior pleasure. Now all men at times seek pleasure merely for its own sake, but in the nobler characters this is only occasional. In general, they set for themselves higher and more varied ends, and pursue these in total disregard of the pleasures or pains that may occur either in the process or in the result. Let it be emphasized that pleasure is only one of the many objects of natural desire, and pain only one, and by no means the greatest, object of aversion. There are a multitude of evils recognized as far greater than pain.[1]

Another appetence is curiosity or inquisitiveness, — these words being taken in a wide and good sense, the desire for knowledge. This also has a notable instinctive exercise, and in its higher, intelligent form is a powerful incentive to action, improvement, and progress. It is figuratively spoken of as a hunger and thirst for knowledge, which however largely gratified, is never properly satisfied.[1]

---

[1] The Hedonists said that pain is the greatest of evils. The Stoics denied *in toto* that pain is an evil. The Peripatetics, however, allowed pain to be an evil, but affirmed that vice is a greater evil. This last is more in accord with the views now prevalent in Christendom.

Acquisitiveness is the desire for property in things. When extreme, it is called avarice, and, with reference to appetite, greed. Its influence in determining the activities of human life should be remarked (§ 251).

Ambition, or the desire for power, is directed toward persons, but commonly regards and treats them, not as persons, but as mere things. Napoleon was "a sceptered hermit." In its petty forms, as in small politics, it disregards the feelings and rights of others, and is thoroughly selfish; but when regulated by a sense of duty (§ 266) and guided by genius, it commands not only admiration, but esteem.[2]

Sociality, the desire for society, is an approach toward affection, yet views others as means rather than as ends, and so is selfish. We are gregarious animals, seeking to consort with our fellows, and to be in the fashion. Ofttimes, however, we find it grateful and healthful to be alone; and sometimes there springs up a morbid aversion to society. Sociality is akin to sympathy (§ 246). Out of it arises imitativeness, a psychic instinct, marked in children, but disappearing with culture; and emulation, a psychic desire, notable in maturer persons, and increasing with culture. Approbativeness, or the desire for the esteem of others, is also social in its impulse. A lack of it is unnatural and injurious, a negative mark of defective character.

§ **262**. Affection, or love, is an impulse or inclination toward other persons, disposing us to give out from our own resources what may benefit or injure them. In a loose and general way, it may be said that affections correspond to sentiments as their causes; *e.g.* pity begets a desire to relieve. They are attended, however, by a special class of emotions (§ 245). The brute is supposed to be incapable of them, except in instinctive or in rudimentary forms, and so they are accounted especially human. Practically their tendency is the reverse of the appetites and appetences, for they do not take, but give. Moreover, they are exercised toward persons or sentient beings only, not at all toward mere things, for they presuppose, not only intelligence in the subject, but also a possible harmony or discord of affection in the object. In pure exercise they contrast with the craving desires in being wholly unselfish.[1]

---

[1] Suppose some one says to me: "I have bad news for you." "What is it?" "Be content not to know." "No; tell me." "It will give you very great pain." "Nevertheless, tell me at once; I want to know." Indeed, I may become almost frantic under the impulse. How can such familiar experience be explained by those who would resolve all impulses into a desire for pleasure and an aversion to pain?

[2] The famous speech of Cardinal Wolsey, in *K. Henry VIII*, A. 3, at the close of sc. 2, is too well known to allow of quotation.

Affections are subdivided into the benevolent and the malevolent.[2] We may call it love and hate. Benevolent affection is modified according as it is consequent upon the sentiments of pity, kindness, gratitude, reverence, etc., the object being esteemed inferior, equal, or superior in its nature or experience.

Our first example of benevolent affection is kinship, or the love of kindred, especially the family tie. This exhibits the varieties of conjugal, parental, maternal, filial, and fraternal love. It has notably in each case, but especially in maternal love, a strong instinctive exercise.[3] Very often these affections are compressed, by association, into the love of home. But it is not the place or home that truly is loved, but those belonging to it. "'Tis home where the heart is." Affection expands, with diminishing force, to collateral kindred.

---

[1] Affection, unlike appetite and appetence, has primarily a passive sense; we are affected thus and so. Perhaps the fact that this class of desires readily becomes passionate, or, more probably, the primarily recipient state of the subject, induced the use of this passive term.

[2] The reader should note the etymology of benevolent and malevolent, of benignant and malignant, of beneficent and maleficent.

[3] Some one has well said that labor of every kind is in itself bitter, but is sweetened by love. Even the pains of childbirth are qualified and assuaged by the awakening feelings of maternity. George Sand discovered in herself the strength of maternity, and her best works are devoted to depicting its transcendent power. Sexual love, the commonplace of the novelist, is shown to be light in comparison, and the profound love which every fair man has for his mother is still a shallow depth of what the mother has for her son.

Another form is friendship, or the love of our fellows whom we like, *i.e.* to whom we are like in important respects, and with whom, therefore, we agree, or whom we find agreeable and congenial.[1] Hence arise fraternities or brotherhoods, clubs, societies, and churches. An important modification is the love of a benefactor, arising from the sentiment of gratitude (§ 254).

The tribal affection should not be overlooked, notable in clans and clanship. Its strength is best indicated, perhaps, by the antipathy between different races, which, as it has a marked instinctive exercise, seems native, ineradicable, and within limits, justifiable.

Patriotism, or the love of one's country, has a wider circumference and a more generous flow. It embraces fellow-citizens, all living under a common government. Anciently it was accounted one of the greatest of virtues, involving hostility toward all outsiders as gentiles and barbarians. Christianity is gradually suppressing this hostility in favor of philanthropy, but does not forbid strong patriotic affection. This love is not, as commonly thought, toward the country itself, which as a senseless thing cannot experience benefit, and so cannot be loved. The love is for the people, and for their sake one labors to improve the government and the country.[2] It is by association and personification that we become attached to places and to things, and speak of loving them, as though they were sentient beings.

---

[1] The variety of cognate terms is worth noting; genesis, genus, and genius or the divine element or tutelar deity (like enthusiasm, *ἐν θεός*). More especially gentle, genteel, genial, and generous, cf. kindly. Let us add that the genial element enters into all forms of real courtesy, for true politeness is love in trifles.

[2] "I call that my country," said John Winthrop, "where I may most glorify God, and enjoy the presence of my dearest friends." — GREEN'S *Short History*, p. 498.

Philanthropy is the love of mankind at large. "*Homo sum, humani nihil a me alienum puto*," called forth the plaudits of even a Roman theatre. But the brotherhood of man is eminently a Christian doctrine, in opposition to the racial and patriotic hostilities of heathendom.

The love of God, or piety in its best and largest sense, is the climax of the affections. It enforces and embraces them all. If a man say, I love God, and hateth his brother, he is a liar. We should love God for his own sake, and all others for God's sake.

§ **263.** Malevolent affections may be typified by hate, and anger or resentment, impelling us to inflict pain and injury.[1] They also follow sentiments, such as indignation, dishonor, etc.

Hatred is more persistent than anger; the latter being a hot, transitory passion, the former cold and continuous. Closely akin to these is the savage impulse to revenge, which inflicts injury merely in the indulgence of the resentful and malicious impulse. To avenge is to inflict just retribution upon an evil doer, and so may be a righteous action.

Jealousy is consequent upon suspicion, and arises when we imagine that some one is aiming to deprive us of what is our own, and dearly prized. In some natures it needs only "a trifle light as air" to arouse the impulse, which readily passes or rushes to a blind and deadly passion.[2]

---

[1] They are all akin to insanity. We say, in common speech, the man is mad.

[2] It is the custom to regard Othello as especially illustrating jealousy. This is questionable. Coleridge, a very subtile analyst, boldly denies that the Moor was jealous. Indeed, his struggle seems not so much between love and jealousy, as between love and honor. Leontes, in *Winter's Tale*, is a more notable victim of the passion. Othello has much of our sympathy; Leontes, we despise. It were curious to consider how much of the purity of society is due to the lurking and threatening of this passion. It is a powerful protective.

Envy is the desire to reduce another to our own level, or below. It differs from emulation, which desires merely to rise to or above another. This is not malevolent, and is ennobling. But envy, besides being a malevolent and ignoble impulse, is altogether without an excuse, or wholly evil. Each of the foregoing has its defensive or punitive element, whereas envy is simply injurious.

Cruelty is an odious malevolence. It has degrees, from mere indifference, on through wantonness, up to the nameless form that finds pleasure in giving pain. It is horrible to know that there is ever a pleasurable thrill in the flesh of the arm that strikes a blow, that there are men who enjoy using the whip. Cruelty implies pain; yet the surgeon is not cruel, nor is it cruel to punish. It is more, too, than giving needless pain. Cruelty is pain-giving trespass. It is the trespass, and not the pain-giving, that makes it wicked; yet it is rather the pain-giving that makes it harrowing and damnable in the eyes of pity. Like envy, cruelty is utterly without excuse.

Lastly, misanthropy, or hatred of mankind, sometimes takes merely a negative form by withdrawing from all society, but also may be positively injurious. In the one case it injures by disregarding social duty, in the other by doing violence to social rights.[1]

---

[1] Molière's Alceste, and Timon of Athens, are fine illustrations of the two phases indicated. The melancholy Jaques was hardly a misanthrope. Iago is the incarnation of envy.

CHAPTER III.

ITS REGULATION.

§ **264**. Desires often conflict; that is, the gratification of some one is incompatible with the gratification of some other. This conflict arises between members of the same class, but more notably between members of different classes. In general there is a conflict between the craving desires which would take, and the affections which would give. In instinctive exercise the appetites are strongest, the affections weakest, though exceptional cases occur. In rational exercise there is recognized a gradation in dignity or worth and excellence, the inverse of instinctive strength, affection being highest in the scale, and appetite lowest. This superiority of affection is due to its having the larger share of the rational element, to its call for self-denial, and to the intimate relation between the exercise of affection and observance of moral law. But there is nothing in the nature of either class to give it the supremacy of control. Hence there appears a need for some controlling principle or consistent principles. These are found in the regulative desires (not exhibited in the foregoing scheme) which are fitted by their nature to subordinate and regulate all others.

It is commonly said that the will regulates the desires, suppressing this, enhancing that. True; but, as every exercise of will is conditioned on an antecedent desire, what desire or desires are the antecedents of this special exercise of will, in which it acts as an intermediary? The answer is, the regulative desires.

§ **265**. The regulative desires are two: interest, or the desire for happiness, and the impulse to duty, or the desire to do right. The former is often called self-love; but this improperly confuses it with the affections, or modes of love.[1] The latter may fairly be called the moral impulse, but is to be distinguished from conscience.

Interest urges us to seek and appropriate the means to our own happiness as an end.[2] Thus it is strictly egoistic or selfish in its direction and tendency, and therefore intimately related to the craving desires, the appetites and appetences.

The moral impulse urges us to pay our dues in the widest sense, for this is the meaning of duty, and what we owe we ought to pay.[3] Thus it is strictly altruistic in its direction and tension, and therefore intimately related to the affections.

It might seem from the foregoing that the regulative desires are themselves in essential opposition, that duty conflicts with interest, and impels us away from our own happiness. But not necessarily so. The relation is conceived more truly thus: Interest, seeking one's own happiness in violation or disregard of duty, never finds it. Its selfish dictates are misleading, injurious, and wrong, and the outcome therefore a failure. Duty, seeking the good of others, impels away from interest but not from happiness; for in its perfect exercise, true happiness, or what is the same, the highest good, is attained, though unsought. This genuine happiness is that defined by Aristotle as "the energy of the soul, according to the best virtue, in a complete life."[1] It appears, then, that the moral impulse has at least the office of control over interest also, and therefore it alone is rightfully supreme over all desires.

---

[1] The definition of affection or love (§ 262) excludes the notion of self-love, or love of one's self as impossible, self-contradictory, and absurd. Strictly, there is no such thing; loosely, it is a synonym of selfishness. In this sense, good usage admits the phrase, *e.g.* "Thou shalt love thy neighbor as [thou lovest] thyself."

[2] Happiness is harmony between our wants and condition. A utilitarian would define it as the maximum of pleasure, satisfaction, gratification, and contentment in life, implying a minimum of their opposites. See Pope's rhapsody in *Essay on Man*, beginning: —

"Oh, happiness! our being's end and aim."

Prudence, wisdom, policy, expediency, dictate that we should often forego a present gratification for a future and greater gratification, in order to secure the maximum.

[3] Ought is an old preterite of to owe; and this formerly had the double meaning of to be indebted and to own, to possess. For example: —

"Be pleased, then,
To pay that duty which you truly owe
To him that owes it." — *K. John*, A. 2, sc. 1.

Altruism is from Lat. *alter*, another, and is in opposition to egoism.

§ **266.** What now, more particularly, are the relations of the regulative to the subordinate desires? The moral impulse or desire to do duty, being altruistic, is in general accord with the benevolent affections.[2] It urges them from their merely natural exercise up to the higher plane of moral obligation, regulating them in due proportion among themselves. In regard of the two lower classes, it counteracts their interested, selfish, egoistic tendencies, impelling them to a disinterested exercise toward a higher altruistic end. For example, interest impels me to seek food, knowledge, property, power, etc., each for its own sake, or rather for the sake of the gratification it will afford me, the end being altogether selfish. The impulse to duty, in view of the higher end, the good of others, urges me to seek these things in order to increase my ability to serve others, or to use what I obtain in such service.[3] When the inferior desires stretch toward this higher end, interest or selfishness disappears; duty and love reign supreme. The process is one of constant self-denial or self-sacrifice, and character and conduct are purified and perfected in the realization of absolute unselfishness.

---

[1] *Nic. Ethics*, bk. i, ch. 6. "L'erreur des utilitaires est de s'être trompés sur la définition du bonheur. Le bonheur n'est pas, comme le prétend Bentham, la plus grande somme de plaisir possible; c'est le plus haut état d'excellence possible, d'où résulte le plaisir le plus excellent." — JANET, *La Morale*, ch. 4.

[2] Also with the malevolent affections (except envy and cruelty) within certain limits, for there is "a righteous anger."

[3] The gratification of the craving desires is still experienced, but it is not that which is sought. They still crave and enjoy fruition, but crave in order to give. *E.g.* One desires to win my esteem, not for his or its own sake, not that he may enjoy it, but to be in position more effectually to promote my welfare. Not less, but the more, does he win and enjoy it.

§ **267**. The moral impulse is conditioned on cognition in a special manner. The moral law is an objective imperative discerned intuitively by pure reason as of universal and supreme obligation. Its authority is directed to the will of every person, commanding right action. But as the will is conditioned on desire, the behest of the moral law would be inoperative and idle, were there not in every person a desire, however weak, to do right, that is, to obey the law. Thus the moral impulse complements and is conditioned on the intuitively cognized moral law.

In popular usage, the term conscience is applied to any and every mental exercise connected with our moral conduct. In scientific use, the term is limited by definition to the moral exercise of some one faculty, either of thought, feeling, or desire. We follow Kant in applying it exclusively to the source and condition of all morality, and define accordingly: Conscience is pure reason discerning moral law. In this view, the moral impulse is not conscience, nor is moral sentiment, nor moral judgment, nor righteous choice; but all these are conditioned on and consequent upon conscience, the discernment by pure intuition of a primary truth in the form of law. These considerations have led us to the very threshold of Ethics.

PART SIXTH.

VOLITION.

CHAPTER I.

ITS RELATIONS.

§ **268.** The fourth and last of the generic powers, completing the mental cycle, is volition or will.[1] It is defined as the objective conation; the faculty or activity in whose exercise mind chooses between alternative actions conceived as possible, and strives accordingly to modify its own state merely, or to superinduce muscular movement. It is the function of the ego to determine the time, manner, and measure of the activity, mental and physical. Not that it must, but only that it may do so. Activities, spontaneous and instinctive, occur without such determination.[2]

---

[1] See § 71. The circuit is in the order of condition and conditioned (§ 81).

[2] See § 52, note. The distinction is merely between the active ego and its activity. It is self-determining. Kant says of man that his will is his very self; it lies in his innermost nature; it is his primary essence, and may be most nearly identified with the ego.

A person (see the curious origin and etymology of the word) is sometimes defined as an intelligent being capable of self-determination. This is insufficient. We should add: and consciously subject to moral law. As conscious subjection to law implies both intelligence and power of self-determination as conditions, these may be omitted, and the definition stated thus: A person is a being conscious of obligation. But this is true only of the imperfect person; he only is under law. A perfect person is a being conscious of holiness. The conception of Deity is that of a perfectly harmonious personality infinitated.

Volition or will is, like cognition, an objective faculty in that it is immediately related to an object. The object of cognition is a fact, something to be known; the object of volition is an act, something to be done. Thus attention in cognition corresponds to intention in volition. The normal aim of cognition is truth; the normal aim of volition is duty. The opposites are error and wrong. Logic states the laws of thought, and the subjective result of their observance is knowledge. Ethics states the laws of conduct, and the subjective result of their observance is virtue.[1]

§ **269**. Besides the foregoing contrasts, volition or will bears a double relation to cognition. It is superior to cognition as controlling it; inferior as dependent on it for intelligent guidance.

For any and every action, external or internal, will is dependent or conditioned on practical imagination, which as a necessary antecedent represents by anticipation the act to be done (§ 202). For every judicious action it is also dependent on a logical judgment, and in case of a means to an end, on the teleological judgment. For every moral action it is furthermore dependent on the intuition of moral law, which furnishes the major premise from which are deduced the specific actions requisite in doing duty. Thus intelligence guides volition.[2]

Volition controls cognition in the determination of attention. That is to say, I am able to concentrate my cognitive consciousness on an object, now on this, now on that. I do so at will, and by the power of will (§§ 87, 89). By this means memory recalls (§ 188), imagination constructs (§ 197), and thought abstracts and elaborates (§ 205). This determination of attention is the special function of will, and it is important to observe that it has no other direct controlling power, which is to say, it immediately or directly controls cognitive exercise by determining attention, and that whatever controlling influence it has over other activities is mediate and indirect, the medium being attention (§ 229).

---

[1] Propositions, the expression of cognition, are true or false; actions, the expression of volition, are right or wrong. The violation of logical law is error; the violation of ethical law is sin. I cannot believe seeming error, nor desire seeming evil. Truth and right are natural ends, but I may carelessly or ignorantly disregard either, and so incur its opposite. In this sense only can logical law be violated; but ethical law may be knowingly and wilfully violated, since, unlike logical law, it implies a choice between possible alternatives, one right, the other wrong.

[2] Pure reason is legislative; it discovers and propounds law. Thought is judicial; it interprets and applies law. Will is executive of the behests of law. Thus we find, original in the essence of human nature, the approved functions of the Departments of State.

§ 270. According to what has just been said, volition bears no direct relation to the feelings. It is conditioned on them only remotely through the desires. It controls them only indirectly by giving or refusing attention to the objects which excite the feelings. The feeling, however, may persist for a time after abstraction from the object, owing to physical diffusion (§ 230).

Volition is directly conditioned on desire, which furnishes motive to choice, and efficient cause to the subsequent effort (§ 257). The volitional control of desire, like that of feeling, is indirect, and through or by means of attention transferred to or from desired objects of cognition. A complete withdrawal of consciousness from a desired object at once determines the complete cessation of the desire. The resistance to be overcome is due mainly and is proportional to the intensity of the desire, and can be counteracted only by virtue of some other desire with which the will accords.

§ 271. Our experience in first apprehending an object is the product of our constitution and environment, and not voluntary. Also it is true that will can neither cause nor inhibit the rise of either a feeling or a desire. In their incipience they too are spontaneous and involuntary. But the continuance, or the increase, or the diminution and termination of the conceptions, feelings, and dispositions attendant on an object are under control according as attention is bestowed on the object, or withdrawn by concentrating on another. This is subjective control.

Objective control, or the control of the voluntary muscles, is more obscure. Commonly it is understood that the will acts immediately on the motor brain centres, and that through the motor nerve connections the muscular contraction or relaxation is produced. But we always represent what we intend to do before doing it. Indeed, this is essential to every intelligent voluntary act (§ 202).[1] Now as there is necessarily an antecedent mental image of the movement, on which idea attention more or less intense is bestowed, it would seem that here also the direct exercise of will is to give attention, and that the physical movement is mediately produced. But the nexus of the mental effort and the subsequent physical change is unknown. The action passes beyond the sphere of consciousness, and reappears in the sphere of observation.

---

[1] See especially the note, on the impulse to realize an idea. On voluntary locomotion, see § 105. The view here taken of objective control, that attention to the idea of the physical action is the immediate act, and that the physical action itself is remote, is confirmed by the fact that should the latter fail entirely (*e.g.* through unknown paralysis), the volition or action of the will is nevertheless complete (§ 275).

CHAPTER II.

ITS ELEMENTS.

§ 272. An analysis of an exercise of volition discovers five essential facts, which seem to be ultimate, as follows: —

First: The idea of something to be done, of an act in order to an end. The act is conceived by the agent as possible, the end desirable; *e.g.* making a bargain, or suppressing anger. This is an exercise of cognitive intelligence by means of attention.[1]

Second: An impulse urging the action. Conflicting impulses may co-exist. The one that prevails, or that with which the volition finally accords, is called the motive. This is an exercise of desire.[2]

The idea of an act and end, and the impulsion of the motive, are not elements of volition, but are necessary antecedents or conditions of its exercise.

Third: A preference of the conscious ego for one line of action rather than another, or for non-action. This is the exercise of choice or election.

Fourth: Intention, or the resolution upon choice to do this or that action, either instantly or in due time, according to opportunity.

Fifth: A nisus or striving to effectuate the choice, constraining a change of mental state only, or superinducing muscular motion. It is expressed by: I try. This is the voluntary effort.

---

[1] The act is properly the object of volition; the end is not properly the object, though often so called. In order to the effort the act must be conceived as possible; *e.g.* a sane man cannot try to fly. In the healing of the withered hand (Mark 3 : 1–5) the effort showed faith.

[2] The end is sometimes but improperly called the motive. We should clearly distinguish motive from final cause.

Choice, intention, and effort are the elements of volition.[1]

§ **273.** Choice or election is a phenomenon *sui generis*, discoverable only within the domain of consciousness, and having no analogue in the material universe.[2] There are two special conditions precedent, corresponding to the general conditions of volition already cited. These are: —

First: Alternativity of possible actions, implying independence of objective control or causation.[3]

---

[1] The schoolmen distinguished three movements of will *circa finem*, — velleity, intention, fruition. Also three movements *circa media*, — consent or the approving the means, election or the choosing the fittest, and application or the using that elected.

[2] Motives in their influence upon choice have been likened to weights in a balance. See Leibnitz in *Letters between L. and Clarke*, pp. 157 and 165; Bayle's *Dictionaire*, *ad verb*; Edwards on *Freedom of the Will*; and Thummig, quoted by Hamilton in *Reid*, pp. 610, 611, note. The illustration does not illustrate. It is misleading and false. The movement of a balance by a weight is a case of rigid causation. There is no alternative. The necessity is strict, absolute. Therefore, instead of likeness, there is extreme contrast, contrariety, in contradiction of the very essence of choice (if there be any such thing) which is liberty. It is "Hobson's choice." — *Spectator*, No. 509.

Intelligence may fairly be likened to a balance, and reasons to the weights. Intellect deliberates (from *de* and *librare*, to weigh, from *libra*, a balance). It weighs the facts and the reasons with a view to choice or decision. But in using this metaphor we should be careful to observe that weights are causes or forces necessitating, whereas reasons are not at all causes or forces, and do not (except in case of rigid demonstration) necessitate the resulting judgment according to any fixed law.

[3] The outward action may be restrained or constrained. This, in legal phrase, is "positive duress." A man may be tied hand and foot, and so restrained from doing his will. See John 21:18. Or he may be overmastered, and so constrained to do what he would not. *E.g.* in taking prisoners during our war, a revolver well aimed was called jocosely "a persuader." But the subjective volition cannot be reached. There is a vulgar saying that "anybody can lead a horse to water, but all the world cannot make him drink." It contains a profound truth. The complete isolation of each will from every other is well worthy of note. There is only one Being in the universe who can determine my will, and to do so would be destructive of His gift of liberty.

Second: An equal plurality of impulses, counter-checking and restraining each other until a conclusion is reached, and the choice made.

Over these conditions precedent, deliberative intelligence presides. It considers the alternatives, and gives judgment in favor of one rather than another, but does not necessarily determine the election. It is influenced, but not determined by the impulses. Its procedure is logical, ascertaining what is right, true, best, and therefore most desirable among the impelled actions. The choice made does not always correspond with the judgment rendered. That it do so is normal and natural, but not necessary or invariable. For example, shall I go or stay? There may be many good reasons why I should stay, as my ease, my profit, my duty, and accordingly I judge it best to stay. But curiosity, perhaps, urges me to go, and so despite my judgment I choose to go. Familiar experience of this sort shows that the judgment and the choice are distinct, and that the one does not strictly determine the other.

Choice or election, let us repeat, is largely independent; yet not entirely of judgment, which presumes to dictate it; nor of an impelling desire, which conditions it; but, being variously conditioned, it is free, at liberty between the possible alternatives. This is the essential notion of choice; no choice, no freedom; no liberty, no choice. The question before us, in the subsequent chapter, is whether there be such a thing as choice or election.

§ **274.** We have named intention as an element of volition. Observe the distinction between choice in abeyance, and choice made. In the former, I am vacillating under the influence of opposed reasons and conflicting desires, and then choosing; in the latter, the question concerning the alternatives is resolved, that is, I have resolved, my resolution is taken, I have determined what to do. This, the issue of choice, or completed choice, is intention.

Intention is static rather than dynamic. It is a state of mind lying between choice and effort, between election and fruition. Its duration is indefinite. The effort and act often follow the choice without apparent interval, still we call them intentional. But often also, having resolved what to do when opportunity offers, my intention may continue for any length of time awaiting occasion. When this occurs, then, but not until then, the effort takes place, blindly it may be, that is, without further deliberation, and the thing is done. An act is intentional when it conforms to the election.[1]

§ **275**. Effort is the remaining element of volition. It is characterized as a nisus or striving, and is the final and complete expression of the free personality or ego. It is consequent upon and subsequent to choice, effectuates intention, and is an ultimate fact of consciousness.[2] As choice issues in intention, so intention issues in attention, whose effort is the immediate action.

Voluntary effort strives to produce some definite change of mental state only, or to superinduce muscular movement.[1] Neither result may be attained, but in the effort the subjective voluntary action is complete, though the proposed consequents be imperfect or entirely null.

---

[1] We limit the term to the intention to do an act. Good usage speaks also of the intention with which it is done, *i.e.* the purpose of the agent. This generally is its legal sense.—See Austin's *Jurisprudence*, Lec. 19 sq.

It is a common doctrine in Ethics that moral quality lies wholly in the intention. But are we not told: Thou shalt not covet; and is it not wrong to deliberate between right and wrong?

The old muddle about the proper use of the words *shall* and *will* has hardly been cleared up. It may prove helpful to point out that at bottom *will* is active, *shall* passive. *E.g.* "I will go to-morrow," is an immediate expression of my subjective activity in the choice or decision. Afterward my intention, under which I am passive, is expressed by: "I shall go to-morrow." This principle solves many of the perplexities clearly. But see the tractate *On Shall and Will*, by Sir Francis Head.

[2] In the consciousness of effort or strain, we have experience of cause producing effect. In no other case have we direct knowledge of the nexus of cause and effect. In the sphere of observation we have only succession of phenomena; but because of our experience of power in the effort causing change, we attribute to unconditional antecedents generally a producing power. See Mansel's *Meta.*, p. 230 sq.; and Calderwood's *Moral Phil.*, p. 184 sq. (ed. of 1872) for discussion and authorities *pro* and *contra*.

---

[1] The immediate cause of the effort is not the precedent choice, nor the intention, but that impelling desire which by choice has now become the motive (§§ 257, 272).

It has already been pointed out that reasons are not causes or forces (§ 273, note). Desires, however, are causes or forces. But we must beware of mechanical notions, especially in view of the terms having a mechanical origin which are used to express this efficacy, as impulse, tension, etc. Conflicting desires do not neutralize each other; they do not disappear like opposite pressures; they are merely a mutual restraint until a preference is allowed. When one thus becomes a motive causing the effort, it is not at all, as in mechanics, a composite resultant of the several forces, a sort of mental diagonal, but all others losing efficacy, the one, the motive of the effort and act, exerts its full energy. This is clearly manifest in persons having marked decision of character.

CHAPTER III.

ITS FREEDOM.

§ 276. In respect of the exercise of volition there are two opposed doctrines, that of liberty and that of necessity, with modifications of each.

Strict necessity is fatalism. This extreme doctrine philosophers of the necessitarian school generally reject. Some would prefer that their doctrine should be called determinism.[1] They do not wholly deny freedom, but they give it a special definition. They say the will is free when acting according to its nature, and that it is its nature to be determined by desires. Every scheme of necessity or determinism represents desires as controlling the will, and voluntary acts as effects which follow from their mental causes as certainly and invariably as physical effects follow physical causes.

The opposed libertarian doctrine presents a greater variety of modes. In general, however, it allows that desires influence the will, but denies the determination. It exhibits the will as controlling the other faculties, including desires, which solicit and impel, but do not compel. Desires are merely occasions, not causes of volition. The outcome accords with the desire that prevails, but it prevails only by permission. Thus the doctrine represents the will as controlling desire, and not desire as determining the will.

§ 277. Am I free? The question is very old; it is the problem of the ages, says Hume.[1] Its solution has engaged the attention of the best thinkers the world has known, and upon it a vast literature has accumulated. Yet it is a problem unsolved, and seemingly hopeless. An apology, then, is needed for even the humblest attempt to throw light upon it. The apology is in its importance.

---

[1] Fatalism is a Mohammedan doctrine. On determinism, *i.e.* that will always *is* according to its antecedents, not that it *must* be, which is necessity, see Mill's *Logic*, bk. vi, ch. 2, and *Ex. of Hamilton*, ch. 26.

Who, or rather what am I, if not free? I am not a person, but merely a thing. If not free, I originate nothing; I am not the beginning, nor indeed the end of anything, but a mere channel. In that case, too, I am active only in the sense that a rolling stone or a climbing vine is active; strictly speaking, I am wholly passive, tossed about as the winds may blow. I am not a creator, but a creature of circumstances. My conceptions are impressed upon me, my knowledge is not acquired but given, my emotions are tides, my impulses mere transmissions.

Kant names the doctrine of freedom as one of the three great ends of philosophy. Does it not, in an important sense, lie at the beginning of all philosophy? For unless I be free, there is no philosophy. A power to discriminate the true and false is not enough; there must also be ability to choose and use the true rather than the false. Unless there be this power of intelligent choice, there can be no search after truth; for search implies freedom. Anything, then, beyond barren rudiments of knowledge is impossible, and all science, all philosophy is an idle dream.[2]

Moreover, freedom is the postulate of ethics. Unless I be free, there is for me no right and wrong, no duty, no obligation, no responsibility, no morality or virtue, no sin or crime, no good or ill desert; conscience is a chimera, religion a delusion, and Deity a myth.[1]

---

[1] "The most contentious question of metaphysics, the most contentious science." — *Human Understanding*, § 8. From the day of Pelagius the controversy has never ceased.

[2] "The freedom of the will is so far from being, as it is generally considered, a controvertible question of philosophy, that it is the fundamental postulate without which all action and all speculation, philosophy in all its branches, and human consciousness itself, would be impossible." — MANSEL, *Meta.*, p. 320.

A question whose answer involves the answers to so many momentous questions, touching all that is noble and most cherished in ourselves and in our relations to others, is one that cannot be dismissed. It obtrudes on every thoughtful mind; it will not down. If we would establish our claim to the dignity of personality, it must be answered. If we would have a through-going philosophy, it must be answered. If we would have a theory of morals to guide our conduct, it must be answered. One may be pardoned, then, for asking, "Am I free?" and venturing to think about it. Let us think closely, moving slowly and carefully where so many have lost the way, assured that a single step in the right direction will be of value, and well worth our pains.

§ **278.** An objection to our procedure might, perhaps, be raised at the outset. Has it not just been said that all search after truth implies freedom? If so, then your proposed search concerning freedom must presuppose it, and the attempt begs the question.

The answer is easy. The logical presumption, as we shall immediately show, is decidedly in favor of liberty. The question is philosophical, the doubt is formal and speculative, not at all actual and practical, and occurs only in constructing a philosophical system. When the question arises, the libertarian, having the presumption, is not chargeable with petition in assuming the reality of liberty, and proceeding upon this, as the condition of all investigation, to examine its logical grounds.

The objection may, however, be retorted fairly upon the advocate of necessity. If the search after truth imply liberty, then you that deny liberty can support your denial only by virtue of the reality of this prior condition. You tacitly claim to be free in the attempt to disprove freedom. In denying it, you assume it. Your proffered argument, then, is an essential self-contradiction, absurd in the very undertaking, *ab initio* null, whatever be its content.

---

[1] "The only liberty that I care a straw for," says Mr Huxley, "is the liberty or freedom to do right. As for the freedom to do wrong, anybody is welcome to deprive me of that as completely as possible." This surely was meant for a serious jest, for it is a self-contradiction, a bull. In order that conduct be morally right, wrong must be possible.

§ **279**. It is a significant fact, admitted by all parties, that every man practically believes in the freedom of his own will, and consequently in that of all other men. The conviction is deep-seated, immovable, and universal, and is the underlying basis of all human conduct, individual, social, and political. This gives a clear logical presumption in favor of the reality of liberty, and justifies speculation concerning it.

The necessitarian pronounces the common conviction of men in this matter a delusion. The burden of proof, then, lies in the first instance on the advocate of necessity, and until his argument is fairly elaborated, there is no occasion for counter proof. Then the libertarian, having a presumption so strong and well founded, may be content with a disproving reply as sufficient to settle the question in favor of liberty.

This logical situation is so far recognized by the necessitarian, that at least he accepts the *onus probandi*, and as the attacking party, produces in the first instance the reasons for his doctrine.

§ **280**. Let us, then, at once attend to the argument for necessitated or determined will, in opposition to its freedom, stated as simply, directly, clearly, and cogently as possible: —

(1) Every change is caused;
A volition is a change;
∴ A volition is caused.

But like causes have like effects. Hence, whatever is caused is determined in kind and degree, or necessitated to be what it is, by its cause. Taking this immediate inference as a major premise we have: —

(2) Whatever is caused is necessitated;
A volition is caused;
∴ A volition is necessitated.

The first major premise: Every change (or event) is caused, is an intuitive necessary truth, known as the axiom of change. The second major is a direct inference from the intuitive necessary truth: Like causes have like effects, known as the axiom of uniformity in nature.[1] The minor premise in (2) is the conclusion of (1). There remains the minor in (1): A volition is a change. Who will question it? So then this process, being a simple and strictly logical deduction, mainly from the two axioms or law of causation, claims to be a close demonstration that a volition is necessitated, or that no act of will is free.

§ 281. To the foregoing argument the advocates of liberty have made various replies.

Some blindly cut the knot, saying: Nevertheless, in spite of law and logic, I am free, for I am conscious of liberty.[2]

---

[1] Many necessitarians, especially the empiricists (§§ 125–6), do not admit any truth to be intuitively necessary; nevertheless they hold the axioms here named to be irrefragable.

[2] "Liberty is the consciousness of the ability to decide differently, to act differently. The human will in the consciousness of itself is exalted to the consciousness of liberty. We impute to ourselves in our consciousness liberty of willing. The impulses which operate on our wills present themselves to our consciousness not as coercive causes, but are rendered motives by the soul itself. Thus our willing and acting are to our consciousness free." — ULRICI.

"Every man is conscious of a power to determine in things which he conceives to depend upon his determination." — REID.

"The free agency of man cannot be speculatively proved, neither can it be speculatively disproved; but we may claim for it as a fact of actual reality, though of inconceivable possibility, the testimony of consciousness." "Man is conscious of his liberty to act." — HAMILTON.

"I desire to thrust out my arm in open space, and my desire is carried into effect. Here is the positive consciousness of freedom. I try to thrust it

If this were shown to be true, there is or ought to be an end of dispute. If freedom be a fact of consciousness, then it neither needs nor is capable of proof or disproof; but as original and certain, given in our very nature, it cannot be denied (§ 69). Those who take this high ground, however, are usually not content to rest there, but descend from it and enter with zeal into the controversy, thereby betraying a lack of confidence in their claim.

And indeed the claim cannot be admitted, the statement is not true. I am conscious of a deep and ineradicable conviction that I am free, but consciousness of a belief is easily and should be clearly distinguished from a consciousness of the object, of the liberty. The notion of liberty is a pure essential negative, the absence of constraint.[1] Now I cannot be conscious of the absence of a thing, but only unconscious of its presence (§ 62). This unconsciousness of constraint proves nothing. Moreover, it is conceivable that constraint may unconsciously exist, I being determined by causes, as the necessitarian affirms, while under a delusion that I am free. But the conceivable possibility of delusion shows that this is not a fact of consciousness (§ 69).

Let us scrutinize the point yet more closely. I represent

---

through a wall and am resisted. Here is the positive consciousness of coercion. The idea of freedom is as positive as that of restraint, both being, at different times, presented in actual consciousness." — MANSEL.

"The almost overwhelming proof [of necessity] seems, however, more than balanced by a single argument on the other side — the immediate affirmation of consciousness in the moment of deliberate volition. It is impossible for me to think at such a moment that my volition is completely determined by my formed character, and the motives acting upon it. The opposite conviction is so strong as to be absolutely unshaken by the evidence brought against it. . . . Let us scrutinize this consciousness of freedom." — SIDGWICK.

[1] "The conception of liberty is properly negative, as the substance of the conception is nothing more than the denial of causal necessity. We think simply the absence of all that hinders and limits." — SCHOPENHAUER. So also Kant in *Rechtslehre*, p. 28 (ed. S. und R.), and Fichte in *Kritik aller Offenbarung*, § 2, describe freedom as merely an absence of the feeling of compulsion. See § 251.

to myself two contrary courses, seemingly possible alternatives. I think and believe I can elect either. I am conscious of this judgment and conviction, but not of the ability, the power itself. Can is potential; the supposed election, if ever made, is future, is not yet existent, and so is not a fact of consciousness (§ 60). Having decided which to take, I am not conscious that I could have chosen the other, for the act is past; is no longer existent (§ 61).[1] While actually and now deciding for this course rather than that, evidently I am not conscious I might be choosing otherwise, since it, too, is non-existent.[2] Therefore, "the power of contrary choice" (a famous phrase, which taken strictly is in itself absurd) is not, on any interpretation, a fact of consciousness.

§ **282.** Other libertarians cut the knot openly. Allowing the law of causation to be positive dictum of intelligence, they find themselves compelled, in order to escape the consequences of this doctrine, to deny that the law, though universal in form, should be allowed as universal in fact. Admitting its application to other mental modes, they would exempt volition. They hold volition to be a cause that is not an effect, an uncaused cause, a free cause, an absolute beginning, a power of absolute origination. This they grant is wholly inconceivable; that by a necessity of thought every so-called origination is only an apparent, not a real, commencement; that we cannot conceive an absolute beginning; that we cannot, therefore, conceive a free volition. Nevertheless, volition is free.[3]

---

[1] "In the idea that instead of the prevailing impulse another might have determined the will lies the consciousness of liberty." — WUNDT.

[2] "Telle est la nature de ma volunté qu'en faisant une chose elle a la conscience de pouvior faire le contraire." — COUSIN.

[3] "Will is that kind of causality attributed to living agents, in so far as they are possessed of reason; and freedom is such a property of that causality as enables them to originate events independently of foreign causes determining it. . . . We can think of but two kinds of causality with respect to that which happens, — causality according to nature, and causality derived

Upon what ground they thus subordinate the law of causation to the doctrine of liberty does not appear. To derogate, in the interest of the latter, from the strict universality of the former, seems quite arbitrary, a rather violent exercise of freedom. But to exempt the phenomena of volition from causality cannot be valid, for this represents mind itself as a complement of contradictions. Moreover, the law, as necessary axiomatic truth, is essentially and strictly universal, and to affirm an exception to an axiom is to affirm, not what is merely incomprehensible, but what is self-contradictory and absurd.[1]

§ **283**. Another proposed escape from the grip of the logic of necessity admits that mental states are caused, but insists that the law is modified in its application to mental phenomena, more particularly to volition. We are told that while causation operates both in the sphere of matter and of mind with certainty and unvarying uniformity, yet in its mode of exercise in the two spheres there is a wide difference. In this difference is discovered a modification of the law, and such a modification as provides for freedom.[2]

---

from liberty. By liberty I understand the ability to originate of ourselves. . . . Reason gives the idea of a spontaneity which can of itself begin to act, without needing the precedence of any other cause to determine it to action in accordance with the law of causal connection. On this transcendental idea of liberty is grounded the practical notion of it, and the transcendental creates in the practical that precise element of difficulty which has always surrounded the question whether liberty is possible." — KANT.

[1] "A free will would then be one which is not determined by grounds, is consequently determined by nothing whatever, and whose individual acts originate in itself absolutely and in a completely original way. But all clear thinking is quenched by this conception, the conception of the *liberum arbitrium indifferentiæ*, and yet this is the only clearly defined, fixed, and decided conception of what is styled liberty of will. To maintain that to a particular man, in a particular set of circumstances, two conflicting modes of acting are possible is perfectly absurd." — SCHOPENHAUER.

[2] "It has been tacitly assumed that if the will is free, in the sense of being superior to motives, it must be so by superiority to the law of causality also, although such a view really violates the nature of the problem, and that to

I would be glad to see a statement of the law in its modified form. I must confess I do not understand what may be meant by a modified axiom. One may be variously expressed, but in substance it is adamant, or else not an axiom. Nor do I understand any better what may be meant by a modified application of an axiom. Wherein it applies, it must apply in like manner to all. Within its sphere, it is not only unalterable but universal, else it is not intuitive truth. It is freely granted that mental phenomena are widely different from physical phenomena; but do they not undergo change? Is not a volition a change, an event, something that happens or occurs or takes place? If so, then volition is caused. There seems no escape from this conclusion. No juggling with words, or twisting of the axiom will avail beyond making a temporary cuttle-fish darkness.

But it is the law of uniformity especially that is thought to be inapplicable strictly to mind. It is alleged that the exercise of volition is very variable, sometimes amounting to mere caprice; that while volition is truly caused, it is not true of it that like causes always produce like effects; that under the influence of different circumstances like causes produce in volition various effects. To this we reply that any circumstance which has any influence whatever is a part

---

the extent of making it irrational. For whatever be the nature of the problem, it certainly does not stand thus: Is volition an uncaused event? Are there facts in consciousness which cannot be attributed to any cause?"

"The theory [of necessity] must be tested by an examination of the facts of consciousness, with the view of ascertaining the laws of exercise applying to mental causes or forces. And when we thus pass from the physical to the mental, we at once recognize a complete difference in the laws of exercise governing the forces of the two spheres. There is much which is common to both. Effects 'certainly and invariably' follow their causes in both spheres. In both, causes are as invariable in their nature, and as certain in their results. But there is an essential difference between the mental and the physical. There is in the mental world an adjustment of forces, which is not found in the material world, except when man interposes to make the adjustment. . . . There are facts which go to show that causality in mind is not exactly analogous with causality in matter." — CALDERWOOD.

of the cause, and the varying effect is due to variety in the cause. If like causes do not *always* produce like effects, then we must give up our axiom. Shall we do so? Is it not far more rational to conclude that the lack of uniformity in volition is only apparent, and that a thorough investigation of the causes affecting it would bring to light a perfect uniformity of exercise? Why or how volition should be exempt from the law in all its rigidity and universality is hard to see. In external nature there is a similar apparent lack of uniformity in complex cases, but the physicist proceeds with unwavering faith, or rather with clear certainty, upon the principle of uniformity, to evolve simplicity out of complexity, and to reduce multiplicity and variety to scientific unity. Unless the same process be applicable to human nature, if to be free is to be lawless, a science of mind would seem impossible.

§ **284.** There remain two extreme views to be noticed. The first would escape the argument for necessity by denying that the law of causation is applicable at all to mental phenomena. It is said that causation belongs to the material universe, spontaneity to the spiritual universe. Spontaneity is described, not as obscure causation, but as an acting from internal rather than from external force, as a property which accounts for changes arising under influence perhaps, but not caused. It is contrasted with uniform play of fixed law in the physical world. Causation is the law of connection between physical facts; spontaneity is the ground of connection between mental facts. These two sets of facts are as distinct in their dependencies as in the fields in which they occur, and the law governing the one is not to be transferred to the other.[1]

---

[1] "All pure intellectual action is spontaneous, beyond causation, and ready to be played upon by the will. The feelings, intellectual and spiritual, are also spontaneous, that is, referable to powers of mind and not to physical forces. . . . The actions of the mind, though free, first through its spontaneous powers, and second through its choices, none the less stand in

With reference to this denial that causation applies to the mental sphere, let us ask: Is not the rap of a gavel the cause of attention? Is not light the cause of vision? And on the other hand: Is not grief the cause of tears? Is not anger the cause of strife? It would seem here beyond question that a physical force causes a mental state; and on the other hand, that a mental state causes physical change. Causation, then, connects the two spheres, and if in the one case a mental state is an effect, and in the other a cause, how can it be said that causation does not apply to mind? Can it be true that causation enters in upon mind, and departs from mind, and yet does not apply within mind? Does not the thought of St. George cause me to think of the dragon? Is not pleasure a cause of love; pain a cause of aversion? If these be not causal relations, I know not what to call them, or what law regulates them; for the law of spontaneity, as distinguished from causation, has not, so far as I know, been formulated. It is freely granted that mental forces and physical forces are very widely different species, but they seem to be of the same genus; they are all forces, for to their action are attributed changes, and that is the meaning of force.[1] That a mental impulse causes mental change is

determinate constitutional relations, and remain to be operated under their appropriate laws. . . . There is order that is not causal order, to wit, thought order, emotional order. . . . Will is germinant, the only germinant thing in the universe; all else is flow. Liberty is spontaneity exercised in choice. Spontaneity is self-centered power as opposed to transmitted power. On spontaneity rests the potential — what can be as opposed to what must be." — BASCOM.

"The human will, as the power of self-manifestation, self-assertion, and self-determination, is simply the highest grade of that spontaneity which pertains to every living being." — ULRICI.

"Personality, the metaphysical ego, possesses a spontaneous originating force, and accepts or declines the motions suggested by desire or impulse, substituting for them its own autocratic *veto* or *volo*." — *West. Rev.*, July, 1882, p. 64.

[1] "La force proprement dite, c'est ce qui régit les actes, sans régler les volontés." — COMTE.

hardly less true than that a physical impulse causes physical change.

It should be observed in general, and very suitably in this connection, that in perception an objective fact is known only by virtue of a subjective phenomenon. The change within us is attributed to a cause without us precisely for the reason that we know the change must have had a cause, and we know of none within producing it. When successive subjective phenomena, as for example the effects on me of lightning and thunder, seem to have no subjective causal connection, we posit an objective causal connection between the objective facts. When successive subjective phenomena seem related as cause and effect, we do not seek an external explanation, and do not call the act perception. Hence mental phenomena are the primordial, fundamental phenomena, and perhaps in strictness the only phenomena. Subjective changes alone are known immediately; all others are inferred from these. It follows that the law of causation applies originally and primarily to mind, and if there be any transference of it, this does not take place from the physical to the mental sphere, but rather from the mental to the physical, and it is a law of mind that is applied in explaining the facts of the external world.

§ 285. At an opposite extreme from the foregoing is the view of those who grant the causal relation throughout all mental activities, and seek to save liberty and responsibility by the definition that he is free who is not hindered or prevented from acting according to his nature.[1] This is called free agency as distinguished from free will. In a free agent, desires are motives which cause or excite volition. An object awakens a desire which, as a motive, arouses volition, and an action is the result. When desires conflict, the strongest prevails. Self-determination is a conception which is self-contradictory. Liberty and necessity are not opposed to each other, but may coexist.

---

[1] "By freedom or liberty in an agent is meant being free from hindrance or impediment in the way of doing or conducting, in any respect, as he wills." — EDWARDS. This definition is used also by some of the most rigid necessitarians; *e.g.* "By liberty we can only mean a power of acting, or not acting, according to the determination of the will." — HUME. "Liberty is the absence of all the impediments to action that are not contained in the nature and intrinsical quality of the agent." — HOBBES.

We have here a definition of liberty different from that under which we have been working. It is, indeed, justified by usage. We say that the emancipated slave is free, that an unbridled horse is at liberty, that a plant grows freely in its native wilds, and that a machine is free to move when the stay is withdrawn. That I am, ordinarily, in this sense, free, no one can deny. It is, however, a freedom not from antecedent determinants, but from subsequent impediments; not a subjective, but an objective liberty; a liberty not found in the internal exercise of the will, but in its external exercise, in the carrying-out its intent; a merely functional liberty which it has in common with the automaton. Such liberty is entirely consistent with causal necessity.[1]

But the liberty which is essential to personality and responsibility is quite another thing. It is not the absence of restraint, but the absence of constraint; not the absence of subsequent hindrance or prevention, but the absence of antecedent compulsion or coercion. Those who advocate the scheme of free agency allow causal constraint or compulsion, and are content with functional liberty. They invert or pervert the definition of liberty as applied to the human will; for a free-will, as distinguished from the bond-will of the necessitarian, is not a will free to act according to its nature, that is, free from impediments in accomplishing its intent, but a will whose nature it is to act freely, that is, free from determinants in forming its intent. The question in dispute is whether, in this sense, I am free. Functional freedom is granted, of course, as prerequisite; but am I free from causal constraint or determination?[1]

---

[1] Objective freedom is the absence of objective preventing cause. Subjective freedom is the absence of subjective constraining cause.

The compromising scheme of free agency fails to save the responsibility of the agent. Liberty to do what I intend, or hindrance, may indeed involve the responsibility of another who lets, provided he be thoroughly free; but it cannot involve mine, since my act, as to its moral quality, is complete subjectively in my intention. If this be necessitated, I am not responsible, the act has no moral quality.

The scheme of free agency is manifestly the scheme of necessity in disguise. It accepts the necessitarian logic as conclusive, but by means of a modified definition it appropriates the libertarian terminology. This merely verbal inversion avails nothing. It leaves the causal argument for necessity unscathed, untouched.[2]

---

[1] The following definition of liberty, by the prince of modern necessitarians, is unexceptionable: "That being alone can be called free which exists solely from the necessity of its nature, and is determined by itself alone to action." — SPINOZA. The term "necessity" here means merely functional necessity, which is properly only a limitation, not a constraint or coercion. That is to say, every being in its normal action is limited to the performance of its natural functions. Necessity in this sense is not inconsistent with causal liberty, as shown in the following: "Absolute liberty consists with absolute necessity. In God we can think of no act which does not proceed from the internal necessity of His nature. Such an act also is the original one of man's self-consciousness; it is absolutely free, for it is determined by nothing external to the ego; it is absolutely necessary, for it proceeds from the internal necessity of the nature of this ego. . . . That only is free which acts in accordance with the laws of its own essential nature, and is determined by nothing else, either within itself or exterior to itself. Hence the individual act is the result of the free essential nature, and thus results of necessity." — SCHELLING. Let us add that functional necessity and functional liberty are the positive and negative views of one and the same limitation.

It is causal necessity, or the presence of causal constraint, which is denied by the advocates of free-will. It is inconsistent with and in strict opposition to causal liberty, or the absence of causal constraint. Its definition is fairly stated in the following: "That being is necessitated or coerced which is determined by another as to a definite mode of its existence and action." — SPINOZA.

Much confusion in the controversy has arisen from a neglect of the distinction between the functional and the causal.

[2] Relative to this famous scheme of Jonathan Edwards, we would refer to the counter treatise of Roland G. Hazard, of Rhode Island, and especially to that of Albert T. Bledsoe, formerly of the University of Virginia.

§ **286**. The Alps cannot be overturned. The axioms of change and uniformity are steadfast and eternal. The argument for necessity is impregnable at these points, and so far is demonstrative. Yet it seems that libertarians have constantly tried either to set aside or to undermine these intuitive truths.[1] For our part, we shall not break a lance against their iron front. Let us seek elsewhere a point of attack. On looking at the first minor premise in the necessitarian argument as stated in § 280, we observe that it is not an axiom. It reads: A volition is a change. Clearly this is not an intuitive truth, though it seems obviously, palpably true, and is usually at once admitted as quite unquestionable. But perhaps here is a joint in the harness. Let us examine it; for if the argument be vulnerable, it is vulnerable only here.

A volition or complete act of will consists, by general consent, of at least two clearly distinct elements, choice and effort. As these are not mutually conditioned, but each is operative alone, it is evident that they should be used in the argument, not conjointly, but separately. If we ask, then, respecting effort, considered not as a force, but as a conscious act, a phenomenon: Is it a change? the answer that it is consciously a change or event seems the only one that can be given. It follows that it is caused, and so necessitated, or not free. Hence liberty is not to be found in this component of volition.

Let us settle at once the causal relations involved. The effort is obviously the cause directly of voluntary attention, and more remotely of muscular motion; but the cause of the effort is not quite so clear. Setting aside certain physical strivings, which, though mere reflex physical acts, are often spoken of as involuntary efforts, and limiting ourselves to effort as implying mental determination, we observe that it is caused directly, immediately by the prevailing desire or motive (§ 257). This becomes apparent when we consider that the appetites often operate instinctively and blindly, that is, without hesitation, consideration, or deliberation, impelling towards gratification, causing an effort to appropriate their satisfying objects. Such acts are unintelligent. Let us particularly remark the absence of any intelligent choice, the guide being natural instinct or ingrained habit. Again, we observe that higher desires conditioned on intelligence, such as anger or curiosity, sometimes act as instinctive impulses, directly causing a strenuous effort to attain their objects, without any pause of deliberation, without any note of an alternative, without any exercise of choice. There are many cases, then, which agree only in the presence of antecedent desire and subsequent effort. On the other hand, we observe that whenever there is strictly no desire, there is no effort. Hence, by the double method of agreement and difference, we may inductively infer that desire is the cause, and the only cause, of effort.[1] Desires whose gratifications are inconsistent restrain each other until preference is given (§ 275, note). And when alternative means to a desired end are contemplated, the effort is thereby suspended until choice of the means is made. But when the desire is not hindered, its direct effect is voluntary effort.

---

[1] The empiricists are commonly necessitarians; the intuitionists, libertarians. The former could consistently be libertarians by denying the universality of the axioms and claiming freedom to be an exceptional experience. But how can the intuitionist consistently avoid being a necessitarian, holding, as he does, to the strict universality of intuitive truth?

§ **287**. We will now attend to the other element of volition, choice. Making this the minor term of the first syllogism in § 280, we have: Choice is a change, or event; and must conclude: Choice is necessitated.

But let us consider for a moment the character of the notion choice, that is, the election of one of two available alternatives (§ 273). Its very essence is freedom. A free choice is a pleonastic phrase; a constrained choice is a contradiction in terms. No liberty, no choice; no choice, no liberty. The question is not whether I am free in choosing, which is a confusion of words, but whether there be really such a thing as choice. It is conceded that if there be liberty, it is to be found only in this residue, for all other mental states are caused. But is there a residue? Is not what we call choice only a delusive notion? Is choice real? To grant that it is, is to grant liberty. To deny liberty, is to deny choice.

---

[1] For the method, see Mill's *Logic*, bk. iii, ch. 8, § 4.

Now the argument against liberty should not grant in a premise what it proposes to disprove; it should not say that choice is a change, thereby admitting that there is such a thing as choice and liberty. It should premise hypothetically, thus: If there be choice, it is a change; and conclude thus: If there be choice, it is necessitated; and then add: But this consequent is absurd; choice cannot be necessitated, and therefore choice is not, there is no such thing.

This logical form is unexceptionable, but the truth of the conclusion depends upon the truth of the premise: If there be choice, it is a change. This premise we now deny, saying: Though there be choice, it is not a change. If we can establish this denial, the stubborn argument for necessity becomes worthless because of a false premise, and its boasted conclusion falls away unproved. Moreover, a proof that a choice is not a change will place choice wholly outside the category of causation, entirely beyond the reach of any causal argument whatever. Unless this be done, there is no escape from the logic of necessity.

§ **288.** To avoid confusion we must distinguish the act from the fact, the doing from what is done. The distinction is nice, but real. In what is called choosing, a mental mode appears in, and then disappears from, consciousness; it is a psychical phenomenon. As a mental act, then, a choice is a change, is an event, and therefore is caused, is necessitated. That is to say, I am caused to choose. In all cases wherein a supposed alternative is presented, that fact necessitates that there be a choice, though not at all what the choice shall be, not at all which alternative shall be elected. Not always between two positive contrary alternatives am I necessitated to choose; I may reject both; but between every positive and its contradictory negative lies an alternative must. I must go or stay, I must accept or decline, I must turn aside or not, I must act or not act; there is no middle between A and non-A. So the mere presence of recognized alternatives determines that I must choose. Even "not to decide is to decide," as Bacon says; that is, I practically choose to let things take their own course.[1]

But between this constrained act of choosing and the subsequent effort to realize it, lies the choice as made, the intention. Evidently the choosing as an act is to be distinguished from the choice as a fact. That I decide is an act; that my decision is to do this rather than that is merely a fact. I must decide, must elect, but whether my election shall fall on this or that is quite another thing. The making an election is a movement forward under causal influence; the election itself is not a movement forward, but merely the determination in which one of two lines the movement shall be made. This is the very essence of choice, and the question now before us is whether the determination in choice be self-determination, or rather, an uncaused fact, or whether it be caused and so necessitated.

§ **289.** Now can we say of a choice that it is a change? Change from what to what? Two roads lie before me. On reaching the fork, shall I take the right or the left? I take the left. The taking the left is an event; the solution of the question is an event; but the mere preference of the left instead of the right is not an event, is not in itself a change from something prior, which is not this, to this. I have not at all altered my course. In the line of progress every step is an event; but when there are alternative paths, my preference for one while believing that I could take the other is not, in itself alone considered, an event. The change from indecision to decision is caused by the presence of alternatives between which I must choose; but the decision in favor of A rather than B is not a change from B to A, nor from non-A to A, for by the very terms themselves the state immediately prior was one of indecision. Comparing the states of mind before and after, evidently there is a change; but comparing the choice exclusively with its conceivable alternative, evidently there is no change.

---

[1] It is said that the Owenites make use of the following argument:—

> Whoever necessarily goes or stays is not a free agent;
> But every one necessarily either goes or stays;
> Therefore, no one is free.

Whately would call this *Fallacia compositionis*, the term, "goes or stays," being used first divisively and then collectively. Obviously, to say that one must go, or that he must stay, is very different from saying that he must do one of the two; hence, ambiguous middle.

Choice cannot be defined, since the notion is *sui generis*, simple and ultimate. We cannot analyze its content, and thereby show that it bears no mark of change. We can only dwell attentively upon the notion as formed from certain conscious activities, and ask ourselves whether it be in harmony with, or in opposition to, the notion of change. A change implies an event, and an event may be fairly defined as what was not and has begun to be. Now suppose that some opportunity for action occurs. Shall I act or not act? I elect inaction. In this election there is no change, nothing comes into being. Should I elect action, still in this election there is no change from that to this, no alteration, but only a decision in favor of this rather than that. We repeat that the passing from indecision to decision is a change; but that the decision for this rather than for that is not a change. The latter is a choice, and therefore a choice is not a change.

§ **290.** If upon this showing it be granted that choice is not a change, we may proceed one step beyond. Let us invert the axiom: Every change is caused, or is an effect, to: Every effect is a change. This is not admissible as a formal logical conversion, but the latter proposition is nevertheless true; for it is an analytical judgment *a priori*, the predicate merely unfolding what is contained in the subject. An effect, to be an effect, implies a change, else nothing would be effected. Taking this as a major, we have the following simple reasoning: —

Every effect is a change;
Choice is not a change;
∴ Choice is not an effect; or, is not caused.

By this, choice is taken entirely out of the category of causation, and, like space, time, unity, identity, infinity, etc., it stands apart, alone, peculiar, a *summum genus*, wholly distinct in kind from all things else, and must therefore be investigated, not comparatively, but as an independent and original fact.

By the discovery of a false premise in the necessitarian argument, it is completely invalidated, and so, for aught that appears, choice and liberty may be real. By the discovery that the fact called choice does not lie in the category of causation, we are enabled to reach a further conclusion. Choice being uncaused, it is *eo ipso* unconstrained. Freedom is the absence of causal constraint. Hence choice is free. In other words, we have found an unconstrained, uncaused fact in the election of one of two available alternatives. We have found freedom in the fact called choice. Therefore choice is real, and human liberty is real, and I am free.

§ **291**. To the foregoing discussion we add a very brief consideration of two important points. It has already been indicated that freedom is a postulate of ethics (§ 277). It is *conditio sine qua non* (not *causa essendi*) of responsibility. Without subjective freedom in action, there can be no responsibility for action. On the other hand, responsibility is the logical condition (*causa cognoscendi*) of freedom. If one be responsible for his conduct, we know he must be free in determining his conduct. There must be liberty of choice between available alternatives, otherwise the moral law would be a tyrannical imperative, an expression of injustice by demanding the impossible. Whoever admits moral quality in action, must admit freedom in determining the action, and for those who hold to intuition of moral law the argument is a demonstration, though indirect, and not an explanation of freedom. Any proof that there is right and wrong in human conduct is also a proof of human liberty.

§ **292.** It might fairly be asked whether choice, in its freedom from causal constraint, be independent of antecedents. Not at all. A desire for each available alternative is prerequisite. A motiveless choice would be only casualism, and the free act of an indifferent would be, morally and rationally, as worthless as a preordained activity, or rather as a passion of a determined will. But the desire is merely *conditio sine qua non* (not *causa essendi*) of the choice.

Moreover, election occurs only in view of reasons. Mere caprice — that is, choice and action without regard of any reason — is unknown to the human mind. In instinctive action there is no exercise of choice, but in intelligent action there is choice, and deliberating intelligence furnishes the ground of the choice (§§ 269, 273). Influenced greatly by desire, the reason for the choice may be a very poor reason, a very weak reason, a very stupid or even absurd reason, yet it stands as the reason why I choose this rather than that. The reason does not determine the election in a causal sense, but merely furnishes ground or occasion for the determination and action. Thus it is that choice has necessary though not determining antecedents.

INDEX.

The number refers to the page. For general topics, see Table of Contents.

Absolute identity, doctrine of, 141.
Abstraction *vs.* attention, 83.
— the process of, described, 218.
Action at a distance, 117.
Affection or love, definition of, 300.
Altruism *vs.* egoism, 306.
Ambition, an appetence, 300.
Anatomy of the brain, 31, 32 n.
Apperception, modern use of, 79 n.
— definition of, 85 n.
Appetence, the word how used, 298, 295 n.
Appetite, its meaning, 296.
A priori and *a posteriori*, 48 n.
Aquinas, Thomas, on here and now, 88 n.
— definition of truth, 232 n.
Area of consciousness, 64.
Argument for necessity, 321.
— for liberty, 332, 337.
Aristotle, on the sense of touch, 19 n.
— on *a priori* and *a posteriori*, 48 n.
— on principles, 48 n.
— on definition of mind, 51 n.
— on subject and object, 53 n.
— on habit, 55 n.
— quoted under consciousness, 57 n.
— on similarity, 61 n.
— on certainty, 112.
— tabula rasa, 118.
— on substance, 133 n.
— on seat of the soul, 148 n.
— on preference, 186 n.
— on recollection, 195 n.
— on Platonic ideals, 214 n.
— on common notions, 227 n.
— on definition of truth, 232 n.
— on the feeling of belief, 247 n., 248 n.
Aristotle, on pleasure and pain, 250.
— on expression of feeling, 254 n.
— on sympathy, 275 n.
— on the ludicrous, 281 n.
— on condition of desire, 290 n.
— on end of philosophy, 292 n.
— on definition of happiness, 307.
Arnold, on sweetness and light, 240 n.
Association, law of, 179.
Attention, definition of, 79.
— etymology of, 79 n.
— as a faculty, 80 n.
— expectant, 82.
— plural, 83.
Augustine, on recollection, 195.
— on utility, 282.
Automatic muscular action, 28.

Bacon, on classification of error, 237 n.
— on value of truth, 238.
— on humility, 287 n.
Bain, on mental and bodily states, 44 n.
— on law of relativity, 60 n.
— on materialism, 140 n.
— on concomitance, 143 n.
— on monism, 144 n.
— on retention, 190.
— on brain action, 204 n.
— on pleasure and pain, 250 n., 251 n.
— on the caress, 261 n.
— on sweetness, 262 n.
— on expression of joy, 273 n.
— on the tender affection, 274 n.
— on the ludicrous, 281 n.
Baldwin, on apperception, 85 n.
— on the idea of space, 101 n.
Bascom, on spontaneity of volition, 327 n.

Beauty, a sensuous sentiment, 277.
— definitions of, 279.
Belief, the doctrine of, 247.
— opposite of doubt, 248, 283 n.
Bell, Sir Charles, on nerves, 27 n.
— on expression of the ludicrous, 282 n.
Berkeley, his idealism, 134.
— on vision of distance, 172 n.
— on symbolic thought, 230 n.
Bernstein, on objects of perception, 15 n.
Binaural audition, experiment on, 9.
Binocular vision, experiment on, 12.
Blackie, Four Phases, 7 n.
Boschovich, on substance, 133 n.
Bowne, on materialism, 137.
Brain, the object of perception, 15.
— anatomy of, 31, 32 n.
Brown-Séquard, on pain, 260.
Buffier, on primary truth, 112 n.

Calderwood, on idealism, 136 n.
— on will and causation, 325 n.
Capacity, a power to be changed, 55.
Cardaillac, on area of consciousness, 65 n.
Carpenter, on muscular sense, 22 n.
— on a case of reflex action, 28 n.
— on unconscious cerebration, 34 n.
— on attention, 82 n.
— on correlation of nerve and mind force, 141 n.
Cause and effect, their nexus, 316 n.
Cerebral nerves, 27.
— hemispheres, the cortex, 32.
Cerebration, unconscious, 33.
Cerebro-spinal system, 26.
Certainty as a criterion of truth, 70, 234 n.
— the feeling of, 247.
Change, a condition of consciousness, 60.
Characteristics of pure intuitions, 110.
Choice, its essential character, 333.
— its conditioning antecedents, 314, 338.
— not a change, 335.
Cicero, on the meaning of faculty, 55 n.
— on the beau ideal, 214 n.
— on the ludicrous, 281 n.
Cicero, on appetite, its wide sense, 296 n.
Classification, the process of, 223.
Clifford, on the organ of sight, 15 n.
— on the wide meaning of feeling, 239 n.
Cognition, definition and distribution of, 73.
— general discussion of, 77.
— condition of other faculties, 79.
— correlative to feeling, 239.
— law of the correlation, 241.
Coleridge, on expectant attention, 82.
— on sensation and perception, 92 n.
— on fancy as a source of error, 238 n.
Color-blindness, 12 n.
Comparison the basis of judgment, 78.
Comte, definition of force, 98 n., 328 n.
— on idealism, 135.
Conation, the meaning of, 72 n.
Conception, the process of, 219.
Condillac, sensationalism, 119 n.
Conditio essendi et cognoscendi, 128 n., 338.
Condition, definition of, 59 n.
Conscience, definition of, 308.
Consciousness, its etymology, 56 n.
— its content, 57.
— definitions of, 58 n.
— its conditions, 59.
— its limitations, 62.
— area of, 64.
— modes of, 72.
— ancient distribution, 73 n.
— of self, a feeling, 245.
— of freedom of will, 322.
Control of feelings, 252.
Cousin, on consciousness, 56 n.
— on pure reason, 130 n.
— on the beau ideal, 214 n.
— on illegitimate success, 292 n.
— on consciousness of liberty, 324 n.
Criterion of pure truth, 113, 234 n.
Cruelty, a malevolence, 304.
Curiosity, an appetence, 299.
Cycle, the historical, 220 n.

Darwin, on expression of emotion, 254 n.
— on expression of the ludicrous, 282 n.
— on expression of contempt, 285 n.

Delbœuf, on psycho-physics, 39.
Democritus, on the sense of touch, 18 n.
Denomination or naming, 221.
Descartes, on mind and matter, 45 n.
— on thought and extension, 51 n.
— on the true, 112 n., 114 n.
— on origin of ideas, 122.
— his idealism, 133.
— on seat of the soul, 149 n.
— on imagination, 200 n.
— on dreaming, 206 n.
— on criterion of truth, 234 n.
— his enthymeme modified, 246 n.
— on pleasure and pain, 251 n.
Desire, defined and distributed, 74, 289.
— cause of voluntary effort, 317 n., 332.
Determinism, doctrine of, 318.
— *vs.* necessity, 318 n.
Difference, shock of, 61, 243.
Diffusion of feeling, 253.
Disposition, its varieties, 267.
Distraction *vs.* attention, 82.
Doubt, negative of belief, 248.
— a painful feeling, 283 n.
Dualism, the doctrine of, 144.
— argument in favor of, 146.

Edwards, scheme of free agency, 329.
— definition of liberty, 329 n.
Ego *vs.* non-ego, 52.
Egoism *vs.* altruism, 306.
Empirical science, 48.
Empiricism, the doctrine of, 118.
— reply to, 120.
Envy, a malevolence, 304.
Error, its primary cause, 236.
Experience and experiment, 95 n.
Extension given in vision, 13.
— opinions of Müller and others, 13 n.
— and intension, law of, 222.
External reality perceived, 96.

Facts of consciousness, 68.
— their importance, 71.
Faculty, a power to change, 55.
Faith, its elements stated, 285.
Familiarity, the basis of memory, 244.
Faraday, on humility, 287 n.
Fatigue, the sensation of, 260.
Fear, a painful emotion, 270.
Fear, its organic effects, 271.
Fechner's law of sensation, 39.
Feeling, defined and distributed, 74, 256.
— extent of meaning, 239 n.
— law of correlation, 241.
Ferrier, D., on blindness, 11 n.
— on functions of brain, 33 n.
— on mind and brain, 138 n.
— on duality of brain, 147 n.
Fichte's nihilism, 135 n.
Free agency, scheme of, 329.
Freedom, the sentiment of, 284.
— a postulate of philosophy, 319.
— a postulate of ethics, 319, 337.
— presumption in favor of, 321.
— objective *vs.* subjective, 330.
— argument in favor of, 332, 337.
Fritsch and Hitzig, experiments of, 33 n.

Gassendi, illustration of retention, 191 n.
Generalization, process of, 219.
General truth, of three kinds, 115.
Generic powers, scheme of, 72.
Genesis of mediate perceptions, 159.
George, Dr. L., on temperaments, 266 n.
Gibbon, on Julian's attention, 84 n.
Gmelin, on odors, 2 n.
Goclenius, on sensorium, 34 n.
Goethe, in illustration of consciousness, 77 n.
— on multiplicity of suggestion, 182 n.
— on fancy, 208 n.
— on wonder, 270 n.
Gratitude, a moral sentiment, 288.
Gray and white nerve substance, 31.
Gurney on hallucination, 203 n., 207 n.

Habit, law of, 55 n., 85.
Hall, Dr. Marshall, on reflex action, 29 n.
Hamilton, on the object perceived, 15 n.
— on touch, its modifications, 18 n.
— on substance, 51 n., 133 n.
— on consciousness and extension, 51 n.
— on subject and object, 53 n.
— on definition of consciousness, 58 n.
— on latent activities, 66 n.

Hamilton, on facts of consciousness, 68 n., 247 n.
— on content of consciousness, 71 n.
— on division of faculties, 73 n.
— on plural attention, 84 n.
— on immediate perception, 99 n., 145 n.
— on externality, 102 n., 103 n.
— on innate forms, 124 n.
— on idealism, 136 n.
— on mind and matter, 138 n.
— on seat of the soul, 149.
— on representation, 151 n.
— on association, 178 n.
— on retention, 190 n.
— on imagination *vs.* memory, 199.
— on conception and naming, 221.
— on criterion of truth, 234 n.
— on tedium, 242 n.
— on feeling and desire, 245.
— on pleasure and pain, 249 n.
— on distribution of feelings, 256 n.
— on the sublime, 280 n.
— on the ludicrous, 281 n.
— on cognition *vs.* conation, 289 n.
— on will as a balance, 314 n.
— on consciousness of liberty, 322 n.
Happiness, definition of, 306 n., 307.
Hartley, on law of transference, 181 n.
— on association, 186 n.
Hartmann, on the unconscious, 66 n.
Hearing, its organ and excitant, 7.
— its percept, sound, 8.
— its percept intercranial, 9.
— analogous with seeing, 14.
Helmholtz, on nervous rate, 36, 40.
— on native and empirical, 101 n.
Helvetius, illustration of preference, 185 n.
Herbart, on thought, 217 n.
— on pleasure and pain, 251 n.
Hering, on psycho-physics, 39.
Herschel, on external reality, 130 n.
Hobbes, example of suggestion, 180 n.
— on change of sensation, 242 n.
— on the ludicrous, 281 n.
— on definition of liberty, 329 n.
Honor and dishonor, sentiments of, 285, 286.
Horace, on wonder, 269 n.
Horace, on sympathetic feeling, 276 n.
Houdin's automatic skill, 30 n.
Humboldt, on delicacy of smell, 3 n.
Hume, on idealism, 134.
— on external reality, 158 n.
— on flights of imagination, 210 n.
— on the question of freedom, 319.
— on definition of liberty, 329 n.
Humility, the sentiment of, 287.
Hunger, the typical appetite, 297.
Huxley's materialism, 141 n.
— on freedom to do right, 320 n.

Idea, note on the word, 154 n.
Idealism, various forms of, 133.
— self-contradictory, 135.
Illusion and delusion, 161 n.
Imagination, definition of, 198.
— distinguished from memory, 199.
Immediate perception, 96.
Individual, definition of, 228 n.
Inference *vs.* intuition, 79.
Inhibition of emotion, 268.
Innate truth, 122.
Instincts, the physical, 29.
— the psycho-physical, 253.
— the psychical, 294.
Intension, the law of, 222.
Interest *vs.* duty, 305.
Introspection, the power of, 106.
Intuition, kinds of, 87.
— derivation of the word, 87 n.
Intuitionism, 122.
— extreme view of, 124.
— prevalent view, 125.
— self-contradictory, 126 n.
— preferred view, 126.
Irving, Washington, on sorrow, 272 n.

Janet, on error of Benthamites, 307 n.
Jealousy, a malevolence, 303.
Johnson, Dr., on the ludicrous, 281 n.
Jouffroy, on attention, 84 n.
Joy and sorrow, their expression, 272.
Judgments, of two kinds, 224.

Kant, sensus fixus et vagus, 1.
— on *a priori et a posteriori*, 48 n.
— on noumena and phenomena, 49 n.
— on division of faculties, 73 n.

Kant, on motion, 102 n.
— on strict universality, 114.
— on forms of cognition, 123.
— on substance, 133 n.
— on idealism, 134.
— on Hume, 134 n.
— on seat of the soul, 149.
— on errors of sense, 161 n.
— on Plato's imagination, 210 n.
— on criterion of truth, 233.
— on intelligent questions, 233 n.
— on knowing and feeling, 241 n.
— on pleasure and pain, 250 n., 251 n.
— on distribution of feelings, 256 n.
— on the ludicrous, 281 n.
— on desires as pains, 291 n.
— on the will as the ego, 309 n.
— on volition as a free cause, 324 n.
Kirchmann, on the ego, 53 n.

Ladd, on physiological psychology, 35 n.
— on psycho-physics, 40.
— on introspection, 46.
— on seeing depth, 165 n.
Language of feeling, 255 n.
Latent activities of mind, 65.
Le Conte, on retinal inversion, 168 n.
Leibnitz, on mind and matter, 45 n.
— on area of consciousness, 65 n.
— on certainty of consciousness, 70 n.
— on reply to Locke, 122.
— on innate truth, 123.
— on substance, 133 n.
— on symbolic thinking, 230 n.
Lewes, on dynamical presence, 149 n.
Liberty, argument in favor of, 332, 337.
Limitation, law of, 80.
Limits of consciousness, 62.
Local signs, Lotze on, 19 n.
Localization of sense-centres, 32.
Locke, on substance, 50 n.
— on sources of knowledge, 118.
— on limits of imagination, 200 n.
Longet, on dreams of sweets, 262 n.
Longinus, on recollection, 195 n.
Lotze, on local signs, 19 n.
— on apperception, 79 n.
— on spirit as an entity, 147 n.
— on localizing percepts, 176 n.
— on self-consciousness, 246 n.
Lotze, on temperament, 266 n.
Love and jealousy, emotions of, 273.
— or affection, definition of, 300.
Lustre, the sensation of, 265.

Macaulay, on creative ability, 203 n.
Magliabecchi's memory, 196 n.
Malebranche, on attention, 86.
— on truth, 237.
— on pursuit of truth, 284 n.
Mansel, on the object perceived, 15 n.
— on forms of cognition, 124.
— on the individual, 228 n.
— on symbolic thought, 231 n.
— on freedom as a postulate, 319 n.
— on consciousness of liberty, 322 n.
Materialism, the doctrine of, 136.
Matter and mind, logically defined, 50.
McCosh, on mind and matter, 45 n.
— on self-evidence, 129 n.
Mediate cognition and inference, 150 n.
Mediate perception, 92, 158.
— genesis of, 159.
Memory defined, 187.
Mill, J. S., on consciousness, 58 n.
— on latent activities, 66 n.
— on consciousness and philosophy, 71 n.
— his power of attention, 83 n.
— on action and passion, 97 n.
— on empiricism, 119, 122 n.
Milton, cited, 149 n., 154 n.
— on phantasy, 204 n.
— on reason *vs.* fancy, 227 n.
Mind, logically defined, 50.
— derivation of the word, 50 n.
— defined *a posteriori*, 51.
— a unit, 75.
Misanthropy, a malevolence, 304.
Mitchell, Dr., on the phantom limb, 174 n.
Mnemonics, 197.
Modes of consciousness, distribution of, 72.
Montaigne's memory, 196 n.
— on opinion, 249 n.
Mood *vs.* temperament, 267.
Motive, as efficient cause of effort, 293.
— its meaning, 293 n.
— as final cause, 313 n.

Motive, as weight in a balance, 314 n.
Müller, on causes of sensation, 15 n.
— sketch of, 36.
— on externality, 104 n.
— on retinal inversion, 168 n.
— on physical effects, 205 n.
Muscular sense, its percept, 20.
— illustrations of, 21.
— action, control of, 312.

Nativism *vs.* experience, 101 n.
Necessity, of two kinds, 113 n.
— modified view of, 129.
— doctrine of, 318.
— argument in favor of, 321.
Nervous circuit, 28.
Nihilism of Hume, 134.
— of Fichte, 135 n.
Non-ego consciously perceived, 97–99.

Observation and reflection, 81.
Occam's law of parcimony, 80 n.
Owenite argument for necessity, 335 n.

Pain and pleasure, 249.
Parcimony, Occam's law of, 80 n.
Pascal, on distraction, 82 n.
— on materialism, 138 n.
— on imagination causing error, 236 n.
Passivity of perception, 94.
Patriotism a benevolence, 302.
Percept, the, an external reality, 96.
Perception, defined, 91.
— *vs.* sensation, 92 n.
— passivity of, 94.
Peripatetic division of faculties, 73 n.
Person, definition of, 309 n.
Phantasy, dreams, 203.
Phantom limb, 174.
Phenomenon defined, 49.
Philanthropy, a benevolence, 303.
Physical effects of feeling, 253.
Physiological psychology defined, 35.
— its value estimated, 42.
— *vs.* pure psychology, 44.
Physiology of the brain, 33 n.
Pity, the sentiment of, 285.
Plato's theory of ideas, 214 n.
— definition of truth, 232 n.
— view of pleasure and pain, 250 n.
Plato's definition of beauty, 279.
Pleasure and pain, 249.
— appetence for, 290.
Plural attention, 83.
Porphyry, on the individual, 228 n.
Porter, on the idea, 157 n.
Power and potential, 55.
Powers, scheme of generic, 72.
— scheme of specific, 75.
Pre-existence of the soul, 194 n.
Preference, law of, 184.
Presentation, definition of, 87.
— *vs.* representation, 88, 150.
Priestly, on association, 186.
Principles, philosophic meaning of, 48 n.
Psychology, pure and mixed, 44.
— defined, 47.
Psychological judgment *vs.* inference, 79.
Psychometry, 40.
Psycho-physics, 37.
Pure intuition or reason, 108.
Pure pain, 24, 259.
Pursuit, pleasure of, 283, 292.

Qualities of body, 100.

Rate of nervous propagation, 40.
Rational psychology, 49 n.
Reason, pure, 108.
Reflection, 107.
Reflex action, 28.
— *vs.* diffusion of feeling, 253.
Reid, on the object perceived, 15 n.
— on immediate perception, 145 n.
— on consciousness of liberty, 322 n.
Relativity, law of, 60.
Representation *vs.* presentation, 88, 150.
Repetition, theory of, 187.
Retention, theories of, 189.
Ribot, on German psychology of to-day, 36 n.
— on psycho-physics, 40.
— on physiological psychology, 43.
Richelieu's power of attention, 86 n.

Sand, George, on maternity, 301 n.
Schelling, on liberty and necessity, 331 n.

Scheme of generic powers, 72.
— of specific powers, 75.
— of feelings, 257.
— of desires, 295.
Schoolmen, on consciousness, 57 n.
— on area of consciousness, 65 n.
Schopenhauer's idealism, 135.
— on liberty a negative notion, 323 n.
— on will as undetermined, 325 n.
Science defined and divided, 47.
Scott, his power of attention, 81 n.
— on true valor, 270 n.
— on sorrow, 272 n.
Scottish philosophy, 97 n.
Seat of the soul, 148.
Seeing and hearing analogous, 14.
Self-perception defined, 105.
Seneca, on idea and image, 154 n.
Sensation *vs.* perception, 92, 240, 258.
Senses, distribution of, 1.
Sensor and motor nerves, 27.
Sensory *vs.* sensorium, 34.
— the object immediately perceived, 15.
Sensus fixus and *vagus*, 1.
— *vagus*, 23, 258.
— *fixus*, 260.
Sentiment, its mark, 277.
Shakspeare cited, 6 n., 55 n., 142 n., 153 n., 185 n., 195 n., 203 n., 204 n., 205 n., 206 n., 207 n., 208 n., 212 n., 242 n., 271 n., 274 n., 275 n., 276 n., 284 n., 292 n., 300 n., 303 n., 306 n.
Shall and will, 316 n.
Shelly, on memory and hope, 199 n.
Shock of difference and similarity, 61, 243.
Sidgwick on consciousness of liberty, 323 n.
Sight, its organ, its objectivity, 10.
— its primary percept, 11.
— its secondary percept, 13.
— its analogy to hearing, 14.
— its octave of colors, 14 n.
Similarity, shock of, 61, 243.
— law of, 178.
Smell, its organ and excitant, 2.
— Valentin and Humboldt on, 3 n.
— proximate cause of, 4.
— classification of, 261.
Sociality an appetence, 300.
Space, apprehension of, 13 n., 19 n.
— origin of the notion of, 101 n.
Specific powers, scheme of, 75.
Spencer, on touch, 19 n.
— on substance, 51 n.
— on external reality, 96 n.
— critical of Mill, 119 n.
— on concomitance of mind and brain, 143 n.
— on mind as motion, 144 n.
— on organized memory, 192 n.
— on perception *vs.* memory, 206 n.
— on pleasure and pain, 251 n.
— on the ludicrous, 281 n.
Spinal cord and nerves, 27.
Spinoza, on substance, 50 n.
— on affirmation, 60 n.
— on absolute identity, 142 n.
— on liberty and necessity, 331 n.
Spontaneity in voluntary action, 327 n.
Stewart, definition of consciousness, 58 n.
— on idealism, 136 n.
— on names, 222 n.
Subconscious activities, 65.
Subject *vs.* object, 53.
Substance, scholastic definition of, 50 n.
— a necessary idea, 132.
Sympathetic system, 26.
Sympathy and compassion, 274.

Tactile corpuscles, 17 n.
Tangibility, the tactile percept, 18.
Taste, its organ and excitants, 5.
— its delicacy, 6 n.
— its analogy to smell, 7.
— its classification, 262.
Temperament, mood, disposition, 266.
Temperature, sense of, 24.
Thompson, Prof. S. P., on audition, 10 n.
Thomson, Dr. Wm., on criterion of truth, 234 n.
Thought, defined and discussed, 216.
Tieck, on the regnant ego, 53 n.
Time of nervous propagation, 40.
— of psychic action, 41.
Touch, its organ, 17.
— its primary percept, 18.
— its secondary percept, 19.
— its sensation, 261.

Trendelenburg, cited on science, 48 n.
Truth, definitions of, 231, 232 n.
— the sentiment of, 282.
Turgot, on innate ideas, 127 n.
Tyndall, on mind and matter, 45 n.
— on concomitance, 142 n.

Unconscious cerebration, 33.
— activities, 65.
Unconsciousness not provable, 63.
Ulrici, on consciousness of liberty, 322 n.
— on spontaneity of volition, 328 n.
Unity of mind, 75.
Utility *vs.* beauty, 281.

Varigny, on physiology of brain, 31 n.
Vibrations of luminiferous ether, 14 n.
Volition, object and elements of, 75, 313.
— special function of, 85, 311.
— or will, defined, 309.
— as an uncaused cause, 324.
— its freedom defended, 318, 332.
Volney, on a case of couching, 165 n.

Weber, on circles of sensation, 17 n.
— on muscular sense, 22 n.
— on sense of temperature, 24 n.
— on pure pain, 24 n.
Weber, his experiments, 36.
— his law formulated, 37.
Wheatstone, on unity in vision, 164 n.
— on vision of distance, 170 n.
White and gray nervous matter, 31.
Will or volition, special function of, 85, 311.
— defined, 309.
— its isolation, 314 n.
Wish *vs.* desire, 290 n.
Wolf, on psychology, 49 n.
— on criterion of truth, 234 n.
Wordsworth, on immortality, 194 n.
— on imagination, 209 n.
Wonder, an emotion, 269.
Wundt, on sight, 7 n.
— on local signs, 20 n.
— his wide research, 37.
— on Fechner's law, 39.
— on the conception of soul, 52 n., 132 n.
— on consciousness, 58 n.
— on the unconscious, 66 n.
— on apperception, 79 n.
— on innervation, 102 n.
— on vision of direction, 167 n.
— on thought, 216 n.
— on temperament, 267 n.
— on consciousness of liberty, 324 n.

K121 Davis, N.K. 83881
D26 Elements of
1892 psychology.

NAME	DATE DUE